HOMER CLASS V INJECTION WELL CLOSURE REPORT

HOMER HIGHWAY MAINTENANCE AND OPERATION STATION
HOMER, ALASKA

Prepared for:

Alaska Department of Transportation & Public Facilities
4111 Aviation Avenue
Anchorage, Alaska 99519

Prepared by:

R&M CONSULTANTS, INC.
9101 Vanguard Drive
Anchorage, Alaska 99507

March 2016

CLASS V INJECTION WELL CLOSURE REPORT
HOMER HIGHWAY MAINTENANCE AND OPERATION STATION
HOMER, ALASKA

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
CAFO	Consent Agreement and Final Order
DOT&PF	Department of Transportation & Public Facilities (Alaska)
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
GRO	gasoline-range organics
M&O Station	Maintenance and Operation Station
mg/kg	milligrams per kilogram
ND	non-detect
OWS	oil-water separator
PAH	polycyclic aromatic hydrocarbons
PCE	tetrachloroethene
PID	photoionization detector
ppm	parts per million
R&M	R&M Consultants, Inc.
RRO	residual-range organics
SGS	SGS North America, Inc.
SVOC	semi-volatile organic compound
TCE	trichloroethene
VOC	volatile organic compound
USGS	U.S. Geological Survey
WSO	Weather Service Office

CLASS V INJECTION WELL CLOSURE REPORT
HOMER HIGHWAY MAINTENANCE AND OPERATION STATION
HOMER, ALASKA

EXECUTIVE SUMMARY

Class V injection well soil sampling activities were conducted on 18 February 2016 by R&M Consultants, Inc. (R&M) at the DOT&PF Homer Highway Maintenance and Operation Station (M&O Station) in Homer, Alaska. Soil sampling activities included drilling three boreholes beneath the leach field and collecting soil samples for laboratory analysis. The soil samples were analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), and total metals (arsenic, cadmium, chromium, and lead).

Site History

The Homer M&O Station was constructed in late 1984 and is used for staging and maintenance for State of Alaska vehicles and equipment. It also serves as a material (gravel, sand, etc.) storage facility. The original as-built drawings for the maintenance building included a floor drain system with an oil-water separator (OWS). Water from the floor drain in the M&O Station enters the OWS and continues to the seepage pit, which constitutes a Class V injection well. Based on available as-built drawings and DOT&PF personnel knowledge, it does not appear that the Class V injection well ever had its own seepage pit but has been historically connected to the mounded septic field. The 1984 as-built drawings indicate that the floor drains exit the northwest side of the building and are buried along the western property line until reaching the mounded septic system located approximately 200 feet to the north-northwest of the M&O Station building where it is believed that the OWS system drains. A separate drain line runs from the septic tank to the leach field along a similar path. The depth of the pipes is unknown, but the septic leach field piping is located approximately 1.5 feet below grade based on the 1984 as-built drawings. Locations of the leach field and presumed drain and septic piping are shown on Figure A-02. The floor drain system and leach field constitutes an U.S. Environmental Protection Agency (EPA) Class V injection well for motor vehicle waste disposal identified in the Consent Agreement and Final Order (CAFO) from the EPA as docket number SDWA 10-2013-0155.

Analytical Results

The metal arsenic and the VOC 1,1,2-trichloroethane were detected at concentrations exceeding the ADEC migration to groundwater cleanup levels for the under 40-inch zone of 3.9 and 0.018 milligrams per kilogram (mg/kg), respectively. The detected arsenic concentrations ranged between 3.93 and 5.40 mg/kg and exceeded ADEC cleanup levels in all primary and duplicate samples collected. The 1,1,2-trichloroethane detection was 0.0422 mg/kg in the duplicate sample from the discharge point (HMR16-SO). Remaining parameters were either non-detect or were detected below the respective cleanup levels (Table 2.2).

Conclusions

Arsenic was detected at low concentrations that exceeded the migration to groundwater cleanup levels for soil in all samples. Concentrations of arsenic appeared consistent across all samples at relatively low concentrations. The relatively consistent concentrations of arsenic detected in the site soil samples were between 3.93 and 5.40 mg/kg and indicate that the detected concentrations are attributable to background conditions and not to contamination associated with past site use. Cadmium, chromium, and lead were detected, but the results were below the cleanup levels.

VOCs detected below cleanup levels included eight petroleum related compounds (sec-butylbenzene, ethylbenzene, 4-isopropyltoluene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylene) and four chlorinated VOCs (dichlorodifluoromethane, tetrachloroethene [PCE], trichloroethene [TCE], and 1,1,2-trichloroethane). Detection of SVOCs were limited to bis(2-ethylhexyl)phthalate and naphthalene, which were also below the respective migration to groundwater cleanup levels. The majority of these detections originated from soil collected from the discharge point and the western sample location.

Soil obtained from the Class V well discharge point was observed to be stained nearly black and had a distinct petroleum odor. Only 1,1,2-trichloroethane (a common component of degreasers such as TCE, PCE, or as a standalone degreaser) was detected above the migration to groundwater cleanup level in the duplicate discharge point sample (HMR16-SO) at 0.0422 mg/kg.

CLASS V INJECTION WELL CLOSURE REPORT
HOMER HIGHWAY MAINTENANCE AND OPERATION STATION
HOMER, ALASKA

1.0 INTRODUCTION

Class V injection well soil sampling activities were conducted on 18 February 2016 by R&M Consultants, Inc. (R&M) at the DOT&PF Homer Highway Maintenance and Operation Station (M&O Station) in Homer, Alaska. Soil sampling activities included drilling three boreholes beneath the leach field and collecting soil samples for laboratory analysis.

1.1 Site Description

The DOT&PF Homer Highway M&O Station is located at Milepost 169 of the Sterling Highway (Township 6S, Range 14W, Section 15, Seward Meridian). The site is located approximately 4 miles north of the City of Homer, Alaska (Figure A-01).

1.1 Background

The Homer M&O Station was constructed in late 1984 and is used for staging and maintenance for State of Alaska vehicles and equipment. It also serves as a material (gravel, sand, etc.) storage facility. The original as-built drawings for the maintenance building included a floor drain system with an oil-water separator (OWS). Water from the floor drain in the M&O Station enters the OWS and continues to the seepage pit, which constitutes a Class V injection well. Based on available as-built drawings and DOT&PF personnel knowledge, it does not appear that the Class V injection well ever had its own seepage pit but has been historically connected to the mounded septic field.

The 1984 as-built drawings indicate that the floor drains exit the northwest side of the building and are buried along the western property line until reaching the mounded septic system located approximately 200 feet to the north-northwest of the M&O Station building where it is believed that the OWS system drains. A separate drain line runs from the septic tank to the leach field along a similar path. The depth of the pipes is unknown, but the septic leach field piping is located approximately 1.5 feet below grade based on the 1984 as-built drawings. Locations of the leach field and presumed drain and septic piping are shown on Figure A-02. The floor drain system and leach field constitutes an U.S. Environmental Protection Agency (EPA) Class V injection well for motor vehicle waste disposal identified in the Consent Agreement and Final Order (CAFO) from the EPA as docket number SDWA 10-2013-0155.

1.2 Topography and Surface Drainage

The south side of the site is the highest portion of the site in elevation. The site is gently sloped to the north, west, and east. A drainage ditch runs along the western site boundary which drains to the north.

The 1984 as-built drawings and site observations from this investigation indicate that surface water from precipitation events runs off the site to the north and west. Stormwater runoff appears to discharge into Diamond Creek to the north and then west to Kachemak Bay. No permanent surface water was present on site at the time of investigation.

1.4 General Geology

The site is located within the Kenai Peninsula portion of the Cook Inlet-Susitna Lowlands physiographic province that is mostly underlain by poorly consolidated coal-bearing rocks from the Tertiary. Bedrock is mantled with glacial moraine, glacial outwash, marine, and lake deposits (Wahrhaftig, 1965).

1.5 Groundwater Conditions

Groundwater conditions at the site are not well understood. Based on the 7.5 minute U.S. Geological Survey topographic map (Seldovia C-5), groundwater likely slopes north into the Diamond Creek drainage; however the possibility exists that groundwater from the site travels south toward the steep bluff above Kachemak Bay. A groundwater divide must exist somewhere in the vicinity of the site. Based on the presence of the mounded septic system, groundwater is presumed to occur at a shallow depth beneath the site.

1.6 Climate

Based on climate data recorded at the Homer WSO Airport weather station (503665), the mean annual air temperature is about 38 °F, with minimum and maximum monthly averages of about 16.5 °F (February) and 60.8 °F (July), respectively. The area received an average of approximately 24.5 inches of precipitation per year, with maximum monthly mean of about 3.1 inches in October.

2.0 INVESTIGATION METHODS AND RESULTS

A well closure plan was drafted by DOT&PF and submitted to the EPA for review and approval. The 2-page closure plan, *Class V Underground Injection Well Closure Plan* dated 30 November 2015, summarized the existing site conditions, the plans for closure, and the requirements of the final report (DOT&PF, 2015). The closure plan was approved by the EPA on 13 January 2016 and was used by DOT&PF and R&M to guide field activities.

Fieldwork to investigate the Class V injection well leach field was completed on 18 February 2016 by R&M. Geotechnical drilling equipment and operators were provided by Discovery Drilling with environmental oversight and sampling performed by R&M. Christopher D. Fell with R&M was the ADEC qualified environmental professional and qualified sampler on site as required by 18 AAC 75 (ADEC, 2016).

2.1 Soil Investigation and Observations

Sampling of the soils under the leach field was accomplished using a Geoprobe™ 7822DT. Soils were sampled from three boreholes drilled at an approximate 45 degree angle: one at the point of discharge, one on the east side of the leach field and one on the west side of the leach field (Figure A-02). The leach field and the initial point of discharge were field-located using as-built drawings provided by DOT&PF.

Soils beneath the leach field consisted of sandy gravel over poorly graded sand at the point of discharge and poorly graded sand on the east and west sides of the leach field. Soil immediately below the discharge point (sandy gravel) was observed to be discolored to nearly black with a strong petroleum odor that dissipated into the underlying poorly graded sand. A photograph of the soil beneath the discharge point is provided in Appendix B and field notes are included in Appendix C.

2.2 Soil Field Screening

Soil was field screened with a MiniRAE photoionization detector (PID) for each sample recovered for the potential presence of VOCs and petroleum hydrocarbons. Field screening was conducted using the headspace method where soil from the excavation was placed in a new re-sealable polyethylene bag using a new metal spoon. The bag and soil were allowed to warm for at least 10 minutes but no more than 60 minutes before recording field measurements. A bag blank was run initially to allow comparison of soil field screening results to a completely empty bag. Field screening results ranged from 5.7 to 148 parts per million (ppm) indicating the potential presence of VOCs or petroleum hydrocarbons. Field screening results are tabulated in Table 2.1.

Table 2.1
Soil Field Screening Results

Sample Number	Sample Depth (feet bgs)	Reading (ppm)
Bag Blank	Not applicable	0.0
HMR16-DP	1.5 to 2.5	**148**
HMR16-EA	3.5 to 4.2	5.7
HMR16-WE	3.3 to 4.0	**74.2**

Notes
For definitions, see Acronyms and Abbreviations (Page ii).
BOLD results indicate moderately elevated PID readings.

2.3 Soil Sampling and Analytical Results

Soil samples were collected according to procedures specified by the closure plan (DOT&PF, 2015), communication with DOT&PF, and ADEC Draft Field Sampling Guidance (ADEC, 2010). Samples were submitted to SGS North America, Inc. in Anchorage, Alaska (SGS) for analysis. SGS is an ADEC-approved laboratory (#UST-005, expires 18 December 2016). Photographs and field notes from the well closure are provided in Appendices B and C, respectively. Complete analytical results and Level 2 reports from SGS are included in Appendix E. Soil results were compared to 18 AAC 75, Table B1, under 40-inch zone cleanup levels (ADEC, 2016). Soil sample locations are shown on Figure A-02. Summarized results are included in the following sections. A complete listing of analytes and associated results are provided in Appendix E.

Soil samples were analyzed for total metals (arsenic, cadmium, chromium, and lead), VOCs, and SVOCs. Analytical results for metals were generally non-detect or detected below the applicable cleanup levels, with the exception of arsenic. Arsenic was detected at low levels ranging between 3.93 and 5.40 mg/kg.

VOCs and SVOCs were also generally non-detect or detected below the applicable cleanup levels, except for 1,1,2-trichloroethane. This analyte was detected above cleanup levels in the duplicate sample from the discharge point; it was non-detect in all other samples.

Most VOC/SVOC detections originated from soil collected from the discharge point (samples HMR16-DP and HMR16-SO). The eastern sample point (HMR16-EA) resulted in the fewest detections; however soil collected from this sample location resulted in the only detection of PCE. Table 2-2 provides summarized analytical results for analytes detected in at least one sample. Results for analytes with non-detect values from all samples are provided in Appendix E.

Table 2.2
Summarized Soil Analytical Results

Analyte	ADEC Cleanup Levels[1] (mg/kg)	Analytical Samples (mg/kg)			
	Migration to GW	HMR16-DP (primary) (1.5 feet bgs)	HMR16-SO[2] (duplicate of HMR16-DP) (1.5 feet bgs)	HMR16-EA (primary) (3.5 feet bgs)	HMR16-WE (primary) (3.3 feet bgs)
Arsenic	3.9	**4.02**	**4.37**	**5.40**	**3.93**
Cadmium	5.0	1.32	1.33	ND(<0.0656)	ND(<0.0624)
Chromium	25	15.1	10.9	17.9	20.7
Lead	400[3]	6.84	6.66	3.01	3.27
sec-Butylbenzene	12	0.0963	0.0774	ND(<0.0172)	0.0336 J
Dichlorodifluoromethane	140	0.0459 J	0.109	1.24	0.0519 J
Ethylbenzene	6.9	0.111	0.104	ND(<0.0172)	ND(<0.014)
bis(2-ethylhexyl)phthalate	13	2.7 J	3.39 J	ND(<0.0862)	0.135 J
4-Isopropyltoluene	--	15.8	15.5	0.116	2.78
Naphthalene	20	0.221	0.214	ND(<0.0332)	0.0604 J
n-Propylbenzene	15	0.0795	0.0673	ND(<0.0172)	0.0291 J
Tetrachloroethene (PCE)	0.024	ND(<0.00873)	ND(<0.00833)	0.0182 J	ND(<0.00698)
Toluene	6.5	0.383	0.37	ND(<0.0172)	0.0166 J
Trichloroethene (TCE)	0.020	0.0129 J	0.0139 J	ND(<0.00862)	0.00806 J
1,1,2-Trichloroethane	0.018	ND(<0.00694)	**0.0422**	ND(<0.00686)	ND(<0.00555)
1,2,4-Trimethylbenzene	23	0.519	0.459	ND(<0.0332)	0.155
1,3,5-Trimethylbenzene	23	0.317	0.281	ND(<0.0172)	0.0721
Xylenes (total)	63	0.581	0.552	ND(<0.0504)	ND(<0.0408)

Notes:
1 Cleanup levels are based on 18 AAC 75, Table B1, Under 40-Inch Zone.
2 Sample number HMR16-SO is a duplicate sample of the primary sample HMR16-DP.
3 Migration to GW cleanup levels have not been established for lead and therefore the direct contact value of 400 mg/kg is used for comparison.
Samples exceeding a cleanup level are presented as bold numbers with a light red background.
ND(0.090) = Analyte was non-detect with a detection limit of 0.090 mg/kg.
For definitions, see Acronyms and Abbreviations (Page ii).

3.0 QUALITY ASSURANCE/ QUALITY CONTROL

Samples were collected by a qualified environmental professional, as defined in 18 AAC 75 Oil and Other Hazardous Substances Pollution Control regulations (ADEC, 2016). Quality assurance and quality control (QA/QC) samples were collected in accordance with the ADEC Draft Field Sampling Guidance (ADEC, 2010).

Samples were maintained in a chilled cooler under standard chain-of-custody procedures by R&M until delivery to the analytical laboratory. During laboratory check-in, the temperature in the cooler for soil samples was measured to be 0.0°C which was below the 4 ± 2°C specified in the ADEC Draft Field Sampling Guidance. The samples were not frozen and the temperature blank (water filled container) was not frozen and did not contain any ice. Cubed water ice was present in the cooler and was melting. As the samples and temperature blank were not frozen, the data are considered usable without qualification.

Duplicate samples were obtained at a rate of one per ten samples for the soil matrix per analytical method. One duplicate sample was collected and submitted blind to the laboratory in the same manner as the primary samples. Analytical results for contaminants were generally in good agreement, except for 1,1,2-trichloroethane collected in soil from the discharge point, between the primary and duplicate soil samples. Method blanks and the trip blank were prepared and analyzed by SGS and were non-detect for all parameters. A laboratory data review checklist was completed and is included with this report along with complete laboratory results in Appendix E.

Analytical data included with this report is considered usable.

4.0 INVESTIGATION CONCLUSIONS

Based on field activities, available site information, and laboratory results from the well closure sampling conducted in February 2016, R&M has developed the following conclusions concerning soil contamination associated with the Class V injection well at the Homer Highway Maintenance Station.

Arsenic was detected at consistently low concentrations that exceed cleanup levels. The relatively consistent concentrations of arsenic detected in the soil samples were between 3.93 and 5.40 mg/kg and indicate that the detected concentrations are attributable to background conditions and not to contamination associated with past site use.

Alaska is known to have elevated concentrations of arsenic as a result of the relatively young geologic age of the rocks that formed Alaskan soils (USGS, 2001, Gough, 1988, ADEC, 2009). A 1988 U.S. Geological Survey paper studied the distribution of various metals across the state. Arsenic was detected ranging from less than 10 and up to 750 mg/kg with an arithmetic mean of 9.6 mg/kg. ADEC has acknowledged the presence of elevated arsenic in a 2009 technical memorandum (ADEC, 2009).

Chromium and lead were detected in all samples but below the cleanup levels. Cadmium was only detected at the discharge point.

VOCs detected below cleanup levels included eight petroleum related compounds (sec-butylbenzene, ethylbenzene, 4-isopropyltoluene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylene) and four chlorinated VOCs (dichlorodifluoromethane, tetrachloroethene [PCE], trichloroethene [TCE], and 1,1,2-trichloroethane). Detection of SVOCs were limited to bis(2-ethylhexyl)phthalate and naphthalene, which were below the respective migration to groundwater cleanup levels.

Based on the analytical data, VOCs and SVOCs were detected most frequently in soil collected from the discharge point and the western portion of the leach field (HMR16-WE). Soil at the discharge point was observed to be stained nearly black and had a distinct petroleum odor. Only 1,1,2-trichloroethane (a common component of degreasers such as TCE, PCE, or as a standalone degreaser) was detected above the migration to groundwater cleanup level in the duplicate discharge point sample (HMR16-SO).

5.0 CLOSURE

This report has been prepared for the exclusive use of the DOT&PF and their representatives in the study of this site. The findings presented within this report are based on limited sampling and laboratory analyses conducted by R&M. Since opinions of conditions prevailing on a particular site must be based on the work authorized by the client, all findings/data must be construed as representative of the site at a particular moment in time and the result of services performed within the scope, limitations, and cost of the work requested. Changes in the conditions of this site may occur with the passage of time and may be due to natural processes or the works of man. In addition, changes in government codes, either State or Federal regulations or laws, may occur. Due to such changes, which are beyond our control, observations and recommendations applicable to this site may need to be revised wholly or in part from time to time.

R&M Consultants, Inc. performed this work in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. No warranty, express or implied, beyond exercise of reasonable care and professional diligence, is made. Should you require additional information regarding the investigation or this report, please contact us.

Sincerely,

R&M CONSULTANTS, INC.

Christopher D. Fell, CPG
Senior Geologist

Robert M. Pintner, PE
Senior Geotechnical Engineer

6.0 REFERENCES

Alaska Department of Environmental Conservation (ADEC), 2016. "18 AAC 75: Oil and Other Hazardous Substances Pollution Control." 1 January 2016.

ADEC, 2010. "Draft Field Sampling Guidance." May 2010.

ADEC, 2009. Arsenic in Soil. March 2009. Technical Memorandum.

Alaska Department of Transportation and Public Facilities (DOT&PF), 2015. "Class V Underground Injection Well Closure Plan." 30 November 2015.

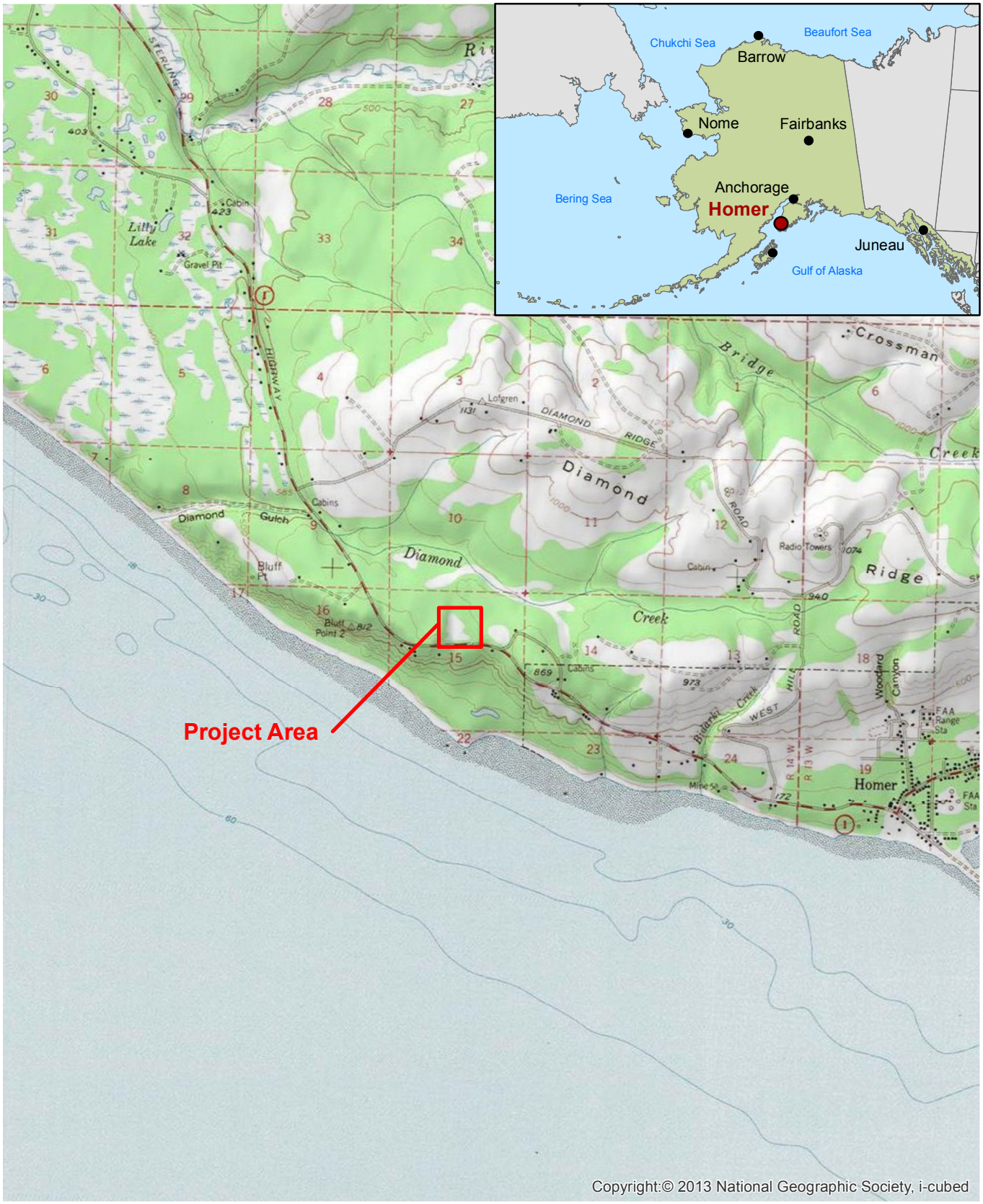
Gough, L.P.; Severson, R.C.; and Shacklette, H.T. (Gough, 1988); 1988. Element Concentrations in Soils and Other Surficial Materials of Alaska. U.S. Geological Survey Professional Paper 1458. 57 pages.

U.S. Environmental Protection Agency (EPA), 2013. "Consent Agreement and Final Order." Docket No. SDWA 10-2013-0155, 25 September 2013.

U.S. Geological Survey (USGS), 2001. Distribution of Arsenic in Water and Streambed Sediments, Cook Inlet Basin, Alaska. USGS Fact Sheet FS-083-01. September 2001. 4 pages.

Wahrhaftig, Clyde, 1965, Physiographic divisions of Alaska: U.S. Geological Survey Professional Paper 482, 52 p., 6 sheets, scale 1:2,500,000.

Appendix A
Site Maps



ALL LOCATIONS ARE APPROXIMATE

0 2,640 5,280 10,560

APPROXIMATE SCALE IN FEET

N

Date Saved: 3/8/2016 9:10:43 AM by cfell Z:_GIS\Projects\2010.08 DOT_SWPF Class V Wells\Map Documents\Homer\A-01_VicinityMap Homer.mxd

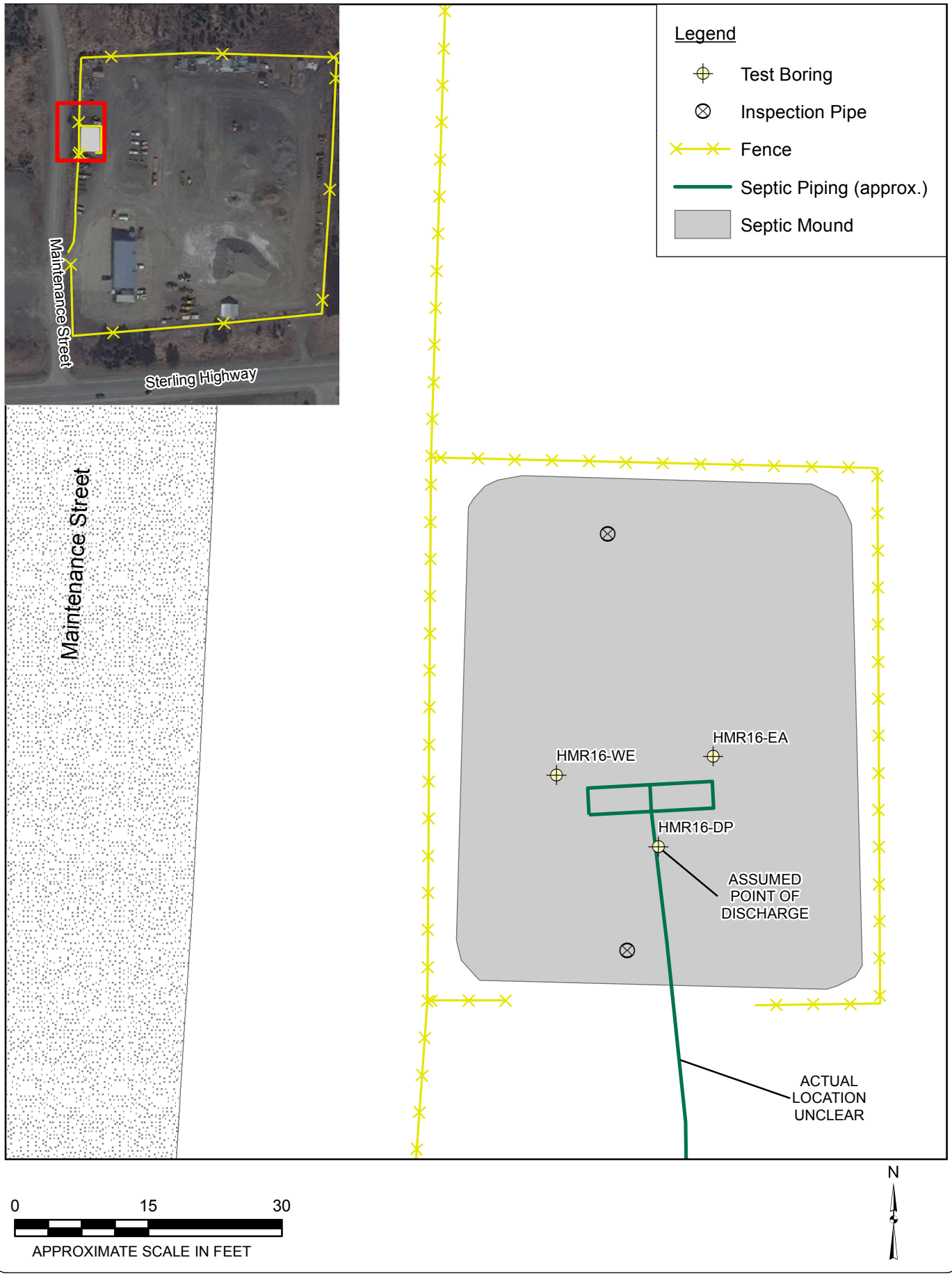
DWN:	R.D.H.
CKD:	K.M.M.
DATE:	MAR. 2016
SCALE:	AS SHOWN

PREPARED BY: R&M CONSULTANTS, INC.

HOMER MAINTENANCE STATION
HOMER, ALASKA

LOCATION AND VICINITY MAP

FB:	N/A
GRID:	SELDOVIA C-5
PROJ.NO:	2010.08
FIGURE:	A-01



Date Saved: 3/21/2016 9:45:15 AM by rhardcastle Z:_GIS\Projects\2010.08 DOT_SWPF Class V Wells\Map Documents\Homer\A-02_InvestLoc Homer.mxd

DWN: R.D.H.	PREPARED BY: R&M CONSULTANTS, INC.	HOMER M&O STATION HOMER, ALASKA	FB: N/A	
CKD: K.M.M.			GRID:SELDOVIA C-5	
DATE: MAR. 2016		INVESTIGATION LOCATIONS MAP	PROJ.NO: 2010.08	
SCALE: AS SHOWN			FIGURE: A-02	

Appendix B
Photograph Log

Photo 1: Work Site facing west. 2/18/2016

Photo 2: Work Site facing east. 2/18/2016

Photo 3: Drilling at work site. 2/18/2016

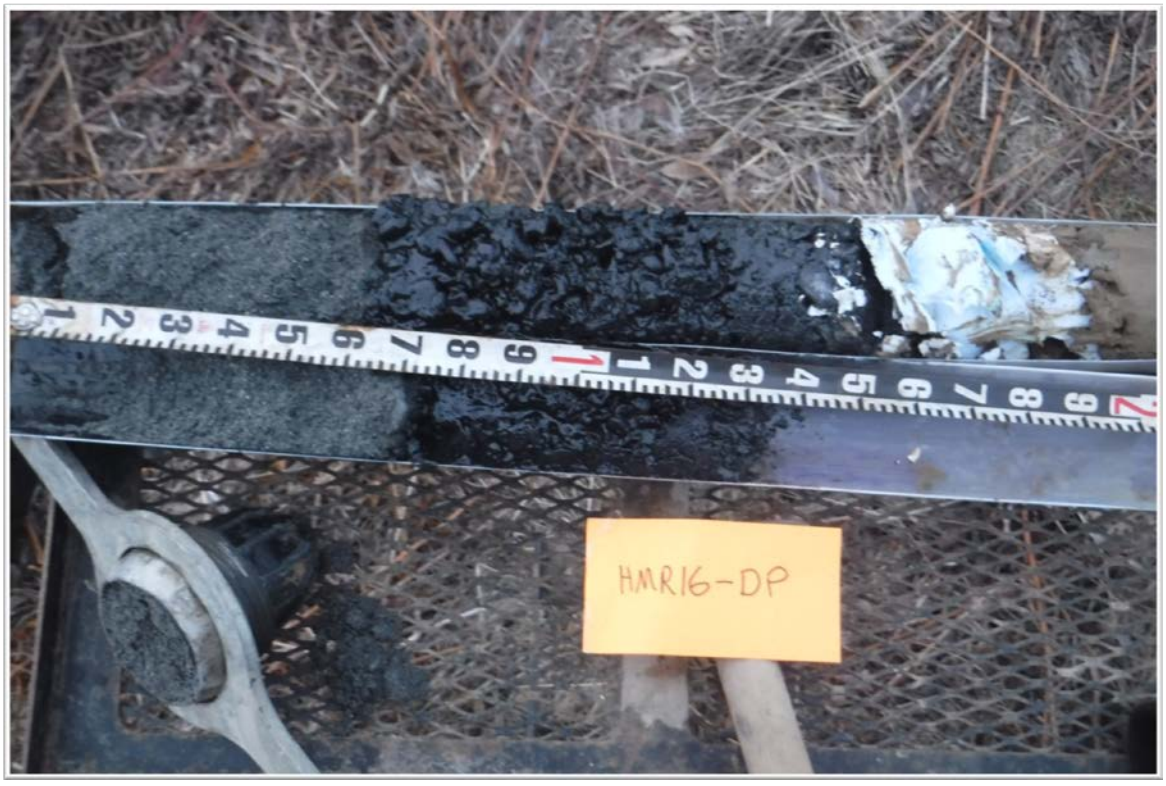


Photo 4: Core from test boring HMR16-DP showing discolored soil with a petroleum odor directly below the foam board in the middle of the core. 2/18/2016

Appendix C
Field Notes

SOLDOTNA CLASS V WELL REMOVAL (2010.08)
8/31/2015 TO 9/1/2015
PG 1 TO PG 10

VALDEZ HARBOR DREDGING (2335.01)
2/10/2016 TO 2/11/2016
PG 12 TO PG 20

Rite in the Rain
ALL-WEATHER
UNIVERSAL
№ 373-MX

HOMER MAINT. STATION CLASS V WELL CLOSURE (2010.08)
2/18/2016 TO 2/18/2016
PG 21 TO PG 24

NINILCHIK MAINT. STATION CLASS V WELL CLOSURE (2010.08)
2/18/2016 TO 2/18/2016
PG 25 TO PG 29

Christopher D. Fell, CF, C. Fell

Homer Maint. Station
Class V Well Closure
C. Fell

2/18/2016

0700 C. Fell arrived on site

Met w/ Gordon Lange of DOT&PF (Foremen)

Reviewed SSHP & DOT&PF Closure Plan.

Began layout of proposed test borehole locations
↳ initial point of discharge (south)
↳ east side
↳ west side

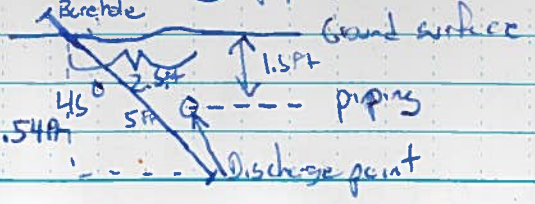
0800 Drillers arrived on site (Discovery Drilling, Inc)
Scott Bamkard
Derek Dell

Tailgate Meeting
↳ Utilities
↳ STF
↳ Rig safety & check

Setting up geer / rig

0817 PID Cal. Check (S/N 6800)
↳ zero check = 0.0 ppm (ok)
↳ 100ppm Isobutylene check = 100.0ppm (ok)
↳ exp date: 1/10/2017
↳ lot # 15-5260

0829 Setting up on ~~HMR16-DR~~ HMR16-DP (cc) 45° angle
↳ Drill @ 45° angle towards discharge point
↳ Depth of discharge point is approx 1.5 feet based on asbuilts, entering ground approx 2.5 feet to the SE to avoid hitting piping



1ft core = 0.7 feet vert

Scale: 1 square = _____

HMR Mount Station
Class V Well Closure
C. Fell

Pg 22
2/18/2016

Site Map

Swing Ties

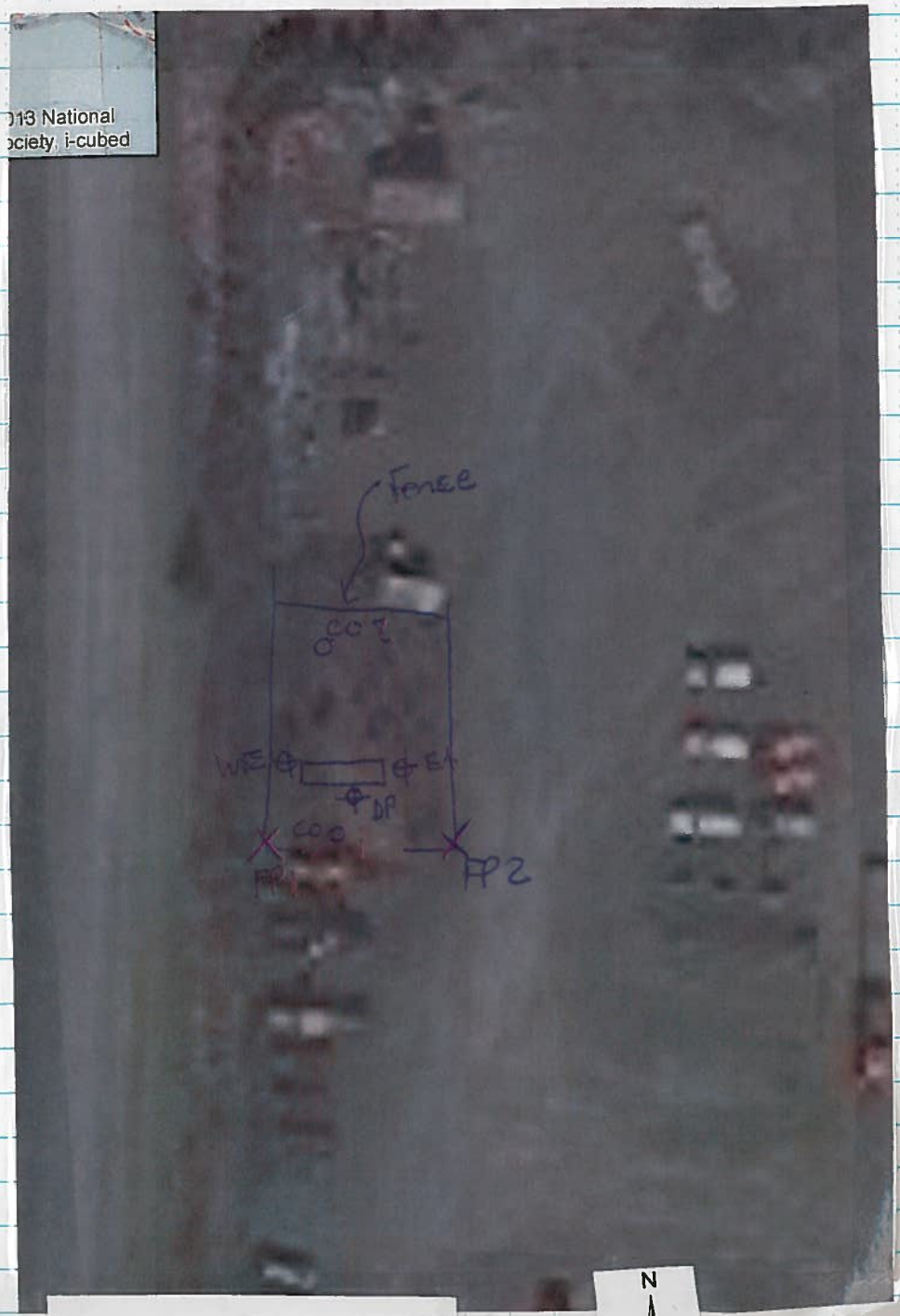
DP: 31.0 ft to FP1
30.5 ft to FP2

EA: 42.0 ft to FP1
33.5 ft to FP2

WE: 29.0 ft to FP1
44.5 ft to FP2

CO1: 23.0 ft to FP1
29.0 ft to FP2

CO2: 56.0 ft to FP1
61.0 ft to FP2



notes N.T.S.

Scale: 1 square = _____

Homer Maint. Station
Class V. Well Closure
C. Fell

0855 *SAMPLE*
HMR16-DP Primary
HMR16-SO Duplicate
C. Fell
2/18/2016
VOC 8260 2 4oz septa amber
btare: 123.58g 1 MeOH vial
btare: 125.05g 1 MeOH vial
SVOC 8270 } 2 4oz amber
Metals 6020 }
(As, Cd, Cr, Pb)
Immediately placed in prechilled cooler following sampling

2.5 to 5 ft bgs
1.5 ft bgs

PID Field Screening

FS #	Depth (ft)	Time start/stop	Reading (ppm)
Blank	N/A	0855/0924	0.0
HMR16-DP	1.5 to 2.5	0905/0927	148
HMR16-EA	3.5 to 4.2	1014/1031	5.7
HMR16-WE	3.1 to 4.0	1054/1119	74.2
	Christopher A. Fell	2/18/2016	

0925 Cleaning up at HMR16-DP

Setting up at HMR16-EA

Advanced test borehole 40° angle

Breathing Zone Monitoring

Time	Reading (ppm)	Location
0835	0.0	HMR16-DP
1000	0.0	HMR16-EA
1040	0.0	HMR16-WE

Homer Maint Station
Class V Well Closure
C. Fell

2/18/2016

1012 *SAMPLE*
HMR16-EA primary
C. Fell
2/18/2016
VOC 8260 1 4oz septa amber
↳ tare: 126.01g 1 MeOH vial
SVOC 8270 } 1 4oz amber
Metals 6020
↳ (As, Cr, Cd, Pb)
Immediately placed in prechilled cooler following sampling

1015 Cleaning up at HMR16-EA

Setting up at HMR16-WA

1031 Advancing HMR16-WA 45°

1042 *SAMPLE*
HMR16-WE primary
C. Fell
2/18/2016
VOC 8260 1 4oz septa amber
↳ tare: 122.79g 1 MeOH vial
SVOC 8270 } 1 4oz amber
Metals 6020
↳ As, Cr, Cd, Pb
Immediately placed in prechilled cooler following sampling

1050 Cleaning up @ HMR16-WE

1058 Cuttings for all test borings were used to backfill holes @ 1 to 2 ft bentonite plug was placed at the top of the holes (medium chips)

1130 offsite

Christopher D. Fell 2/18/2016

Scale: 1 square = ____

Appendix D
Test Boring Logs

STANDARD SYMBOLS

SYMBOL	NAME	PARTICLE SIZE	SYMBOL	NAME
	CLAY	< 0.002mm, Plastic		ORGANICS
	SILT	0.002mm, - #200		ICE
	SAND	#200, - #4		ICE W/SOIL INCLUSIONS
	GRAVEL	#4, - 3"		ICE LENSE IN SOIL
	COBBLES & BOULDERS	3" - 12" & > 12"		ICE CRYSTALS IN CLAY

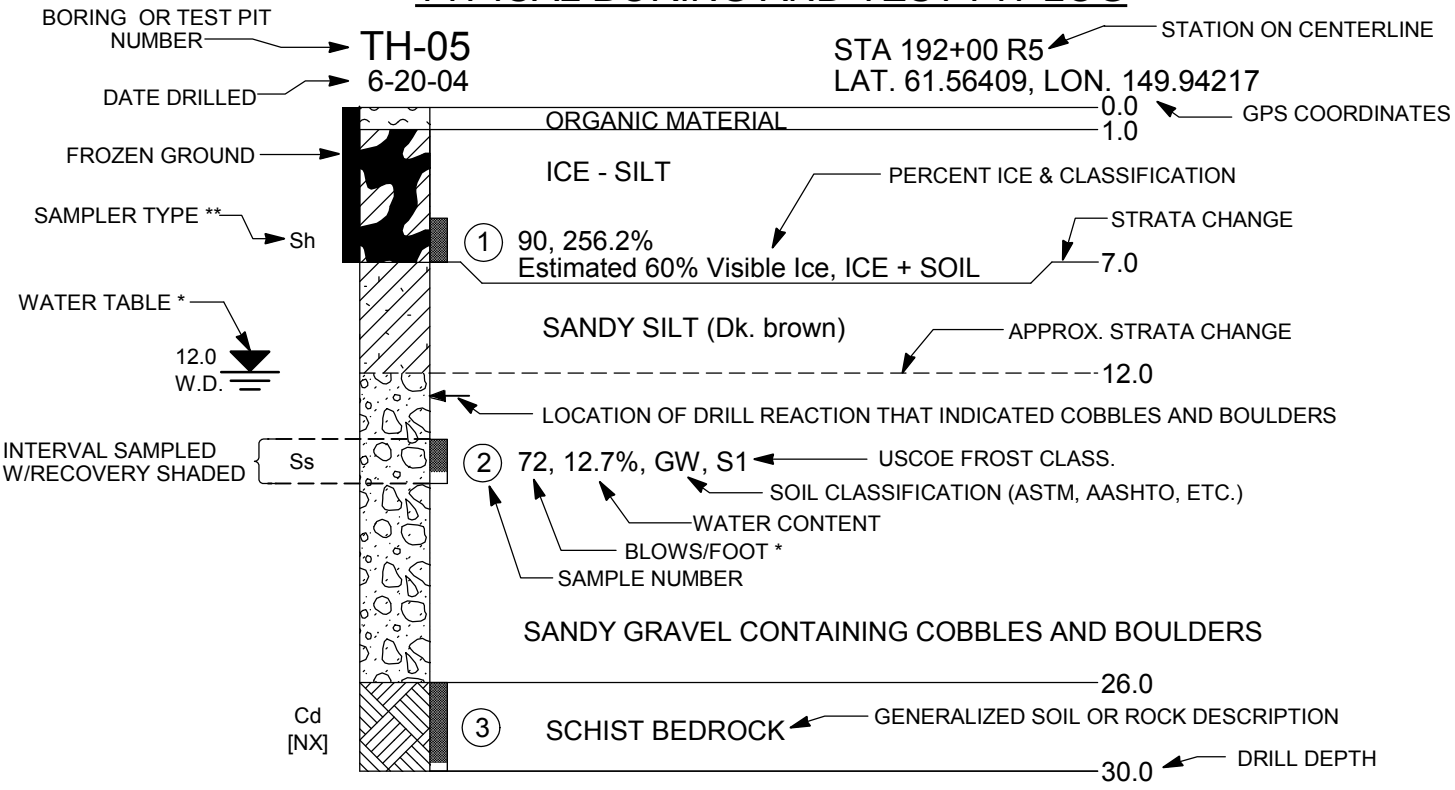
(The symbols shown above are frequently used in combinations, e. g. SANDY GRAVEL W/TRACE SILT)

SAMPLER TYPE SYMBOLS

A	Auger Sample	Sh	2.5 In. Split Spoon w/340 lb. Manual Hammer	Sp	2.5 In. Split Spoon Pushed
C	Cuttings Sample	Sha	2.5 In. Split Spoon w/340 lb. Auto Hammer	Sz	1.4 In. Split Spoon w/340 lb. Hammer
Cd	Double Tube Core Barrel	Sl	2.5 In. Split Spoon w/140 lb. Hammer	Ts	Shelby Tube
Ct	Triple Tube Core Barrel	Ss	1.4 In. Split Spoon w/140 lb. Manual Hammer	Mc5	1.8 In. Continuous Core
Cs	Single Tube Barrel	Ssa	1.4 In. Split Spoon w/140 lb. Auto Hammer	Mc7	3 In. Continuous Core
G	Grab Sample				

NOTE: Sampler types are either noted above the boring log or adjacent to it at the respective depth. An individual log may not utilize all of the items listed.

TYPICAL BORING AND TEST PIT LOG



* W.D. - WHILE DRILLING, A.B. - AFTER BORING, Ref. - SAMPLER REFUSAL
** - REFER TO SAMPLER SYMBOL (Ss, Sh, ETC.) FOR SAMPLER I.D. & HAMMER WEIGHT/TYPE
NOTE: Water levels shown on the boring logs are the levels measured in the boring at the times indicated.

DWN:	H.W.R.
CKD:	C.H.R.
DATE:	GENERAL
SCALE:	NONE

PREPARED BY: R&M CONSULTANTS, INC.

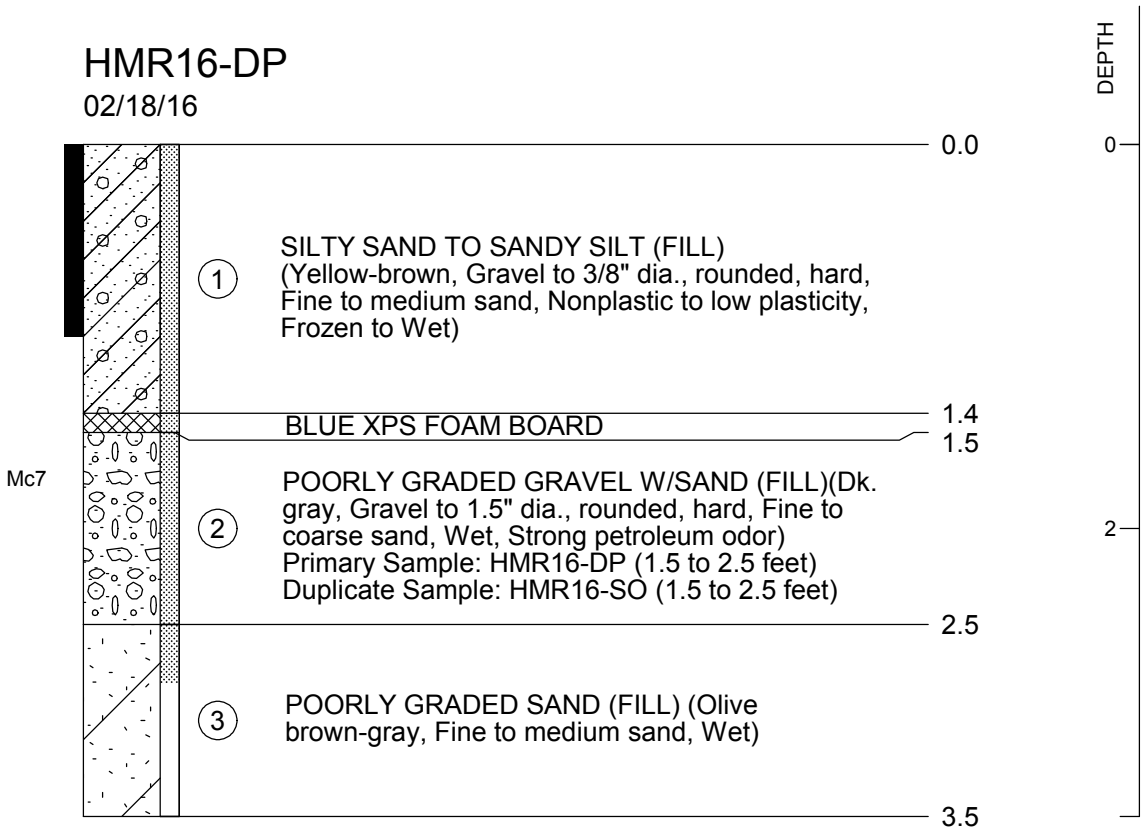
EXPLANATION OF SELECTED SYMBOLS

FB:	N/A
GRID:	N/A
PROJ.NO:	GENERAL
DWG.NO:	D-01

G:\2010.08 CHULITNA SEPTIC SOIL INVESTIGATION\B01&B02.GDW (DRAWING N - B-02 R&M (ENG.)) 03/07/16 03:03 PM

HMR16-DP

02/18/16



Groundwater was not observed while drilling.

The boring was drilled at approximately 45 degrees from vertical. The depths shown were converted to true depth.

G:\2010.08 CHULITNA SEPTIC SOIL INVESTIGATION\HOMER LOGS.GPJ

MASTER ONE COL/PAGE HOMER LOGS.GPJ MASTER2.GDT 03/07/16

DWN:	C.D.F.
CKD:	R.M.P.
DATE:	MAR. 16
SCALE:	1"= 1'

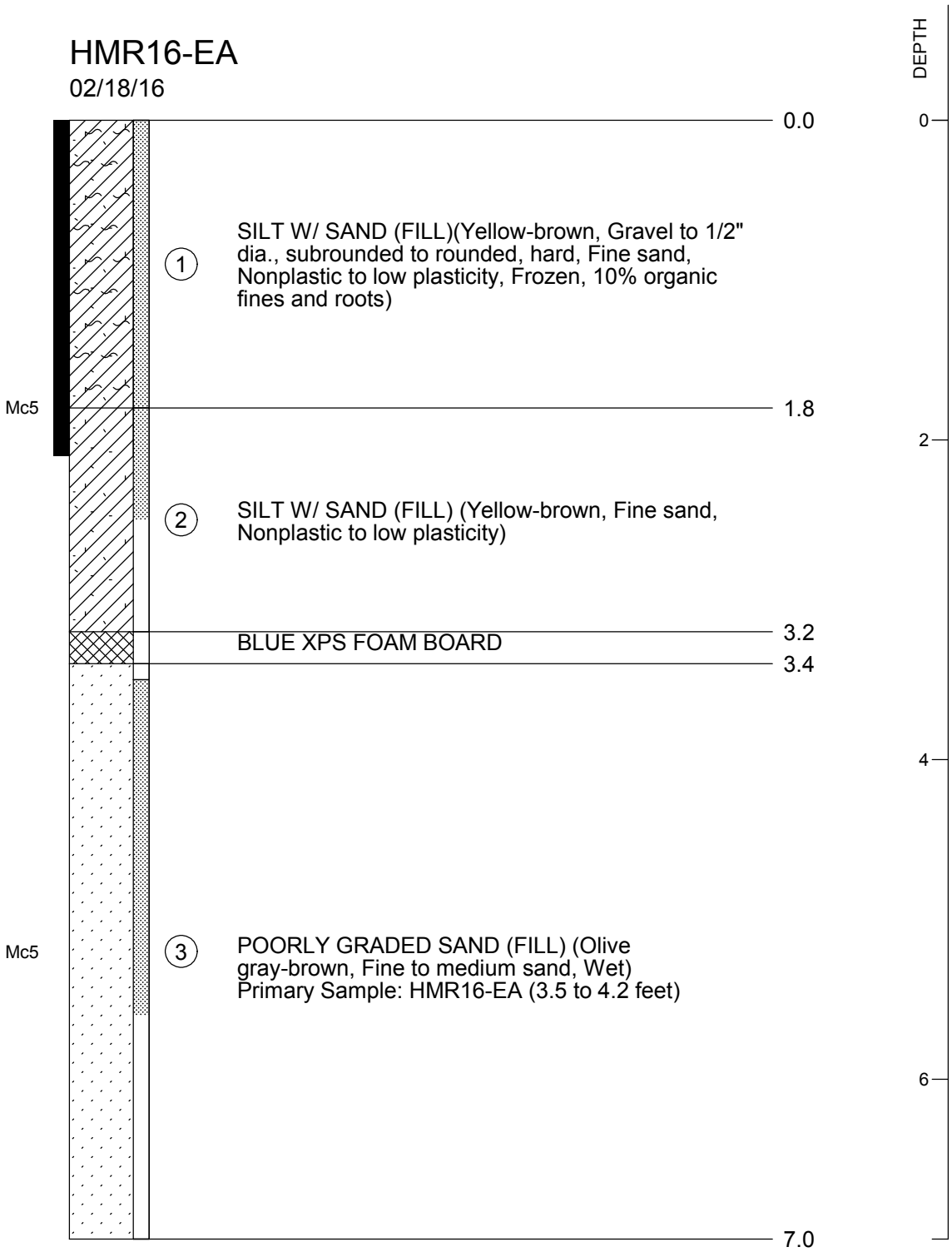
PREPARED BY: R&M CONSULTANTS, INC.

HOMER CLASS V INJECTION WELL
HOMER, ALASKA
LOG OF TEST BORING
HMR16-DP

FB:	NA
GRID:	SELDOVIA C-5
PROJ.NO:	2010.08
DWG.NO:	D-02

HMR16-EA

02/18/16



Groundwater was not observed while drilling.

The boring was drilled at approximately 40 degrees from vertical. The depths shown were converted to true depth.

G:\2010.08 CHULITNA SEPTIC SOIL INVESTIGATION\HOMER LOGS.GPJ

MASTER ONE COL/PAGE HOMER LOGS.GPJ MASTER2.GDT 03/07/16

DWN:	C.D.F.
CKD:	R.M.P.
DATE:	MAR. 16
SCALE:	1"= 1'

PREPARED BY: R&M CONSULTANTS, INC.

HOMER CLASS V INJECTION WELL

HOMER, ALASKA

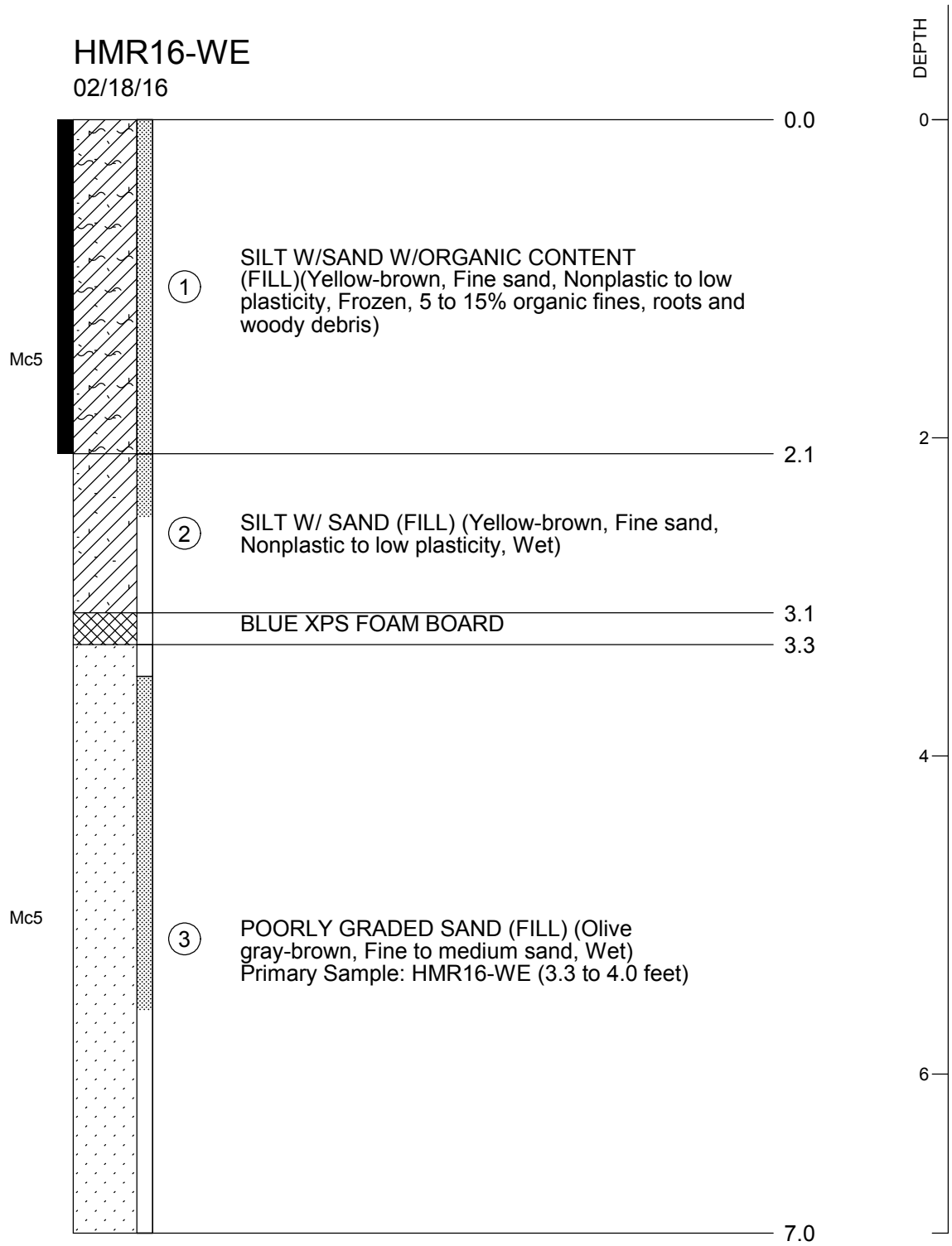
LOG OF TEST BORING

HMR16-EA

FB:	NA
GRID:	SELDOVIA C-5
PROJ.NO:	2010.08
DWG.NO:	D-03

HMR16-WE

02/18/16



Groundwater was not observed while drilling.

The boring was drilled at approximately 45 degrees from vertical. The depths shown were converted to true depth.

G:\2010.08 CHULITNA SEPTIC SOIL INVESTIGATION\HOMER LOGS.GPJ

MASTER ONE COL/PAGE HOMER LOGS.GPJ MASTER2.GDT 03/07/16

DWN:	C.D.F.
CKD:	R.M.P.
DATE:	MAR. 16
SCALE:	1"= 1'

PREPARED BY: R&M CONSULTANTS, INC.

HOMER CLASS V INJECTION WELL
HOMER, ALASKA
LOG OF TEST BORING
HMR16-WE

FB:	NA
GRID:	SELDOVIA C-5
PROJ.NO:	2010.08
DWG.NO:	D-04

Appendix E
Analytical Results and Checklist

Laboratory Data Review Checklist

Completed by:	Rebecca Hardcastle, Christopher Fell, CPG		
Title:	Environmental Specialist	Date:	Mar 8, 2016
CS Report Name:	Homer/Ninilchik	Report Date:	Mar 7, 2016
Consultant Firm:	R&M Consultants, Inc.		
Laboratory Name:	SGS North America Inc.	Laboratory Report Number:	1160765
ADEC File Number:	Not Applicable	ADEC RecKey Number:	NA

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

(•) Yes ( ) No ( ) NA (Please explain.) Comments:

Samples were submitted and analyzed by SGS Anchorage.

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

( ) Yes ( ) No (•) NA (Please explain) Comments:

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

b. Correct analyses requested?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

( ) Yes (•) No ( ) NA (Please explain) Comments:

Temperature blank reading was 0° C upon lab receipt; however the samples were not frozen and the temperature blank (water filled container) was not frozen and did not contain any ice. Cubed water ice was present in the cooler and was melting.

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

No issues noted.

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/ preservation, sample temperature outside of acceptance range, insufficient or missing samples, etc.?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

Cooler temperature, see 3a.

e. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability were not affected.

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

b. Discrepancies, errors or QC failures identified by the lab?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

c. Were all corrective actions documented?

( ) Yes ( ) No (•) NA (Please explain) Comments:

No corrective actions, such as re-running a sample, were necessary. Analytes that had QC failures were not detected above the LOQ in the associated samples.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

Data quality or usability were not affected.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

b. All applicable holding times met?

( ) Yes (•) No ( ) NA (Please explain) Comments:

Trip blank was analyzed past hold time based on the date the lab prepared the trip blank. The actual hold time should have been based on the day the trip blank was first "in use", i.e. the morning sampling began. Holding time for the trip blank was met as measured from the beginning of sampling and was ND for all parameters.

c. All soils reported on a dry weight basis?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

e. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability were not affected.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

ii. All method blank results less than PQL?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

iii. If above PQL, what samples are affected? Comments:

None affected

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

○ Yes ◉ No ○ NA (Please explain) Comments:

No affected samples.

v. Data quality or usability affected? (Please explain) Comments:

Data quality or usability were not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

◉ Yes ○ No ○ NA (Please explain) Comments:

VOC, SVOC

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

◉ Yes ○ No ○ NA (Please explain) Comments:

Arsenic, Cadmium, Chromium, Lead

iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

○ Yes ◉ No ○ NA (Please explain) Comments:

LCS recoveries for several analytes did not meet QC criteria (high biased). These analytes were not detected above the LOQ in the associated samples. See laboratory report for details.

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

○ Yes ◉ No ○ NA (Please explain) Comments:

MS/MSD RPD for Naphthalene was reported at 23.10% and 31.4% for SVOCs and VOCs, respectively. Sample results were at least 90 times lower than cleanup levels indicating that even if the results are high biased 30% the results would still be below cleanup levels.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No, sample results were low enough that even low biased 30% they would still be below clean up levels.

vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

No samples were affected. MS/MSD results were marked with a "*".

vii. Data quality or usability affected? (Please explain) Comments:

Data quality or usability were not affected. If sample concentrations were increased by 30% the results would still remain below cleanup levels for all analytes affected.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses - field, QC and laboratory samples?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

( ) Yes (•) No ( ) NA (Please explain) Comments:

Surrogate terphenl-d14 was outside of QC criteria (54-127%) due to sample dilution (5X) and 5 mL final extraction volume.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

Yes, analytes with failed surrogate recovery are flagged "*".

iv. Data quality or usability affected? (Use the comment box to explain.).

Comments:

Data quality or usability were not affected.

d. Trip Blank - Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

(•) Yes ( ) No ( ) NA (Please explain.) Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ◉ No ○ NA (Please explain.) Comments:

Only one cooler was required for sample transport.

iii. All results less than PQL?

◉ Yes ○ No ○ NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? (Please explain.)

Comments:

Data quality or usability were not affected.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

◉ Yes ○ No ○ NA (Please explain) Comments:

ii. Submitted blind to lab?

◉ Yes ○ No ○ NA (Please explain.) Comments:

HMR16-SO (duplicate of HMR16-DP)

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute Value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ◉ No ○ NA (Please explain) Comments:

The RPDs for the primary and duplicate sample results were below the specified DQOs except for dichlorodifluoromethane which was 81.47%. Dichlorodifluoromethane was detected at very low levels (at least 1,200 times below the cleanup level) at which the precision between duplicate samples is large on a percentage basis, but extremely small on a unit basis (63ppb difference between samples, with a 140,000ppb cleanup level). PCE could not be calculated because it was ND for both the primary and duplicate sample and 1,1,2-Trichloroethane was ND for the primary sample .

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

○ Yes ◉ No ○ NA (Please explain) Comments:

Data quality or usability was not affected.

f. Decontamination or Equipment Blank (if applicable)

○ Yes ○ No ◉ NA (Please explain) Comments:

None collected as sampling equipment was single use.

i. All results less than PQL?

○ Yes ○ No ◉ NA (Please explain) Comments:

None collected as sampling equipment was single use.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? (Please explain.)

Comments:

Data quality or usability were not affected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

○ Yes ○ No ◉ NA (Please explain)

Comments:

No additional flags were assigned.

Reset Form

Laboratory Report of Analysis

To: R & M Consultants Inc
9101 Vanguard Dr
Anchorage, AK 99507
(907)646-9655

Report Number: **1160765**

Client Project: **Homer/Ninilchik**

Dear Christopher Fell,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Stephen at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Alaska Division Technical Director

Stephen Ede
2016.03.07
09:32:00 -09'00'

Stephen Ede Date
Project Manager
Stephen.Ede@sgs.com

Print Date: 03/04/2016 10:25:10AM

Case Narrative

SGS Client: **R & M Consultants Inc**
SGS Project: **1160765**
Project Name/Site: **Homer/Ninilchik**
Project Contact: **Christopher Fell**

Refer to sample receipt form for information on sample condition.

HMR16-DP (1160765001) PS

8270D - Surrogate recovery for terphenyl-d14 (128%) does not meet QC criteria due to sample dilution (5X) and 5 mL final extraction volume.
8270D - The LOQs are elevated due to sample dilution (5X). The sample was analyzed at a dilution due to matrix.

HMR16-SO (1160765002) PS

8270D - The LOQs are elevated due to sample dilution (5X). The sample was analyzed at a dilution due to matrix.

LCS for HBN 1729692 [VXX/28542 (1314248) LCS

8260B – LCS recoveries for chloroethane and trichlorofluoromethane do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

LCS for HBN 1729724 [VXX/28546 (1314384) LCS

8260B –LCS recovery for chloroethane and trichlorofluoromethane do not meet QC criteria.
8260B – LCS recoveries for several analytes do not meet QC criteria (biased high). These analytes were not detected above the LOQ in the associated samples.

LCS for HBN 1729752 [VXX/28550 (1314515) LCS

8260B – LCS recoveries for several analytes do not meet QC criteria (biased high). These analytes were not detected above the LOQ in the associated samples.

1160731001MS (1313754) MS

8270D - MS recovery for benzoic acid (0%) and 2,4-dinitrophenol (43.4%) does not meet QC criteria. Refer to the LCS for accuracy requirements.

1160765003(1313793MS) (1313794) MS

6020A - Metals MS recoveries for multiple analytes do not meet QC criteria. The post digestion spike was successful.

1160731001MS (1314069) MS

8260B –MS/MSD recovery for several analytes does not meet QC criteria. Refer to LCS for accuracy.
8260B –MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

BBTP-1SS1-021716(1160792001MS) (1314249) MS

8260B – MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.
8260B –MS recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy.

1160892001MS (1314385) MS

8260B –MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.
8260B –MS recoveries for chloroethane and trichlorofluoromethane do not meet QC criteria. Refer to LCS for accuracy.

HMR16-WE(1160765004MS) (1314516) MS

8260B –MS recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy.

1160731001MSD (1313755) MSD

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **R & M Consultants Inc**
SGS Project: **1160765**
Project Name/Site: **Homer/Ninilchik**
Project Contact: **Christopher Fell**

8270D - MS recovery for benzoic acid (0%) and 2,4-dinitrophenol (38.2%) does not meet QC criteria. Refer to the LCS for accuracy requirements.
8270D - MS/MSD RPD for hexachlorocyclopentadiene (24.4%), 2-methyl-4,6-dinitrophenol (21.4%) and 1-chloronaphthalene (33.1%) does not meet QC criteria. The associated sample concentrations for these analytes are less than the LOQ.

1160765003(1313793MSD) (1313795) MSD

6020A - Metals MSD recoveries for multiple analytes do not meet QC criteria. The post digestion spike was successful.

1160731001MSD (1314070) MSD

8260B –MS/MSD recovery for several analytes does not meet QC criteria. Refer to LCS for accuracy.
8260B –MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

BBTP-1SS1-02...(1160792001MSD) (1314250) MSD

8260B – MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.
8260B –MSD recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy.

1160892001MSD (1314386) MSD

8260B –MS/MSD RPD for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.
8260B –MSD recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy.

HMR16-WE(1160765004MSD) (1314517) MSD

8260B –MSD recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy.

VW8-73-29 (1160765009) TB

8260B - Sample was recieved and analyzed past hold.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
SW8270D				
1313753	LCS for HBN 1729367 [XXX/34934	XMS9195	1-Chloronaphthalene	PNF
1313753	LCS for HBN 1729367 [XXX/34934	XMS9195	2-Chloronaphthalene	RSP
1313753	LCS for HBN 1729367 [XXX/34934	XMS9195	Benzoic acid	BLC
1313754	1160731001MS	XMS9197	1-Chloronaphthalene	RSP
1313754	1160731001MS	XMS9197	2-Chloronaphthalene	RSP
1313755	1160731001MSD	XMS9197	1-Chloronaphthalene	RSP
1313755	1160731001MSD	XMS9197	2-Chloronaphthalene	RSP
1314211	CCV for HBN 1729675 [XMS/9195]	XMS9195	Benzoic acid	BLC
1314289	CCV for HBN 1729700 [XMS/9197]	XMS9197	Benzoic acid	BLC

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
HMR16-DP	1160765001	02/18/2016	02/19/2016	Soil/Solid (dry weight)
HMR16-SO	1160765002	02/18/2016	02/19/2016	Soil/Solid (dry weight)
HMR16-EA	1160765003	02/18/2016	02/19/2016	Soil/Solid (dry weight)
HMR16-WE	1160765004	02/18/2016	02/19/2016	Soil/Solid (dry weight)
NIN16-DP-CANCELLED	1160765005	02/18/2016	02/19/2016	Soil/Solid (dry weight)
NIN16-EA-CANCELLED	1160765006	02/18/2016	02/19/2016	Soil/Solid (dry weight)
NIN16-SO-CANCELLED	1160765007	02/18/2016	02/19/2016	Soil/Solid (dry weight)
NIN16-NO-CANCELLED	1160765008	02/18/2016	02/19/2016	Soil/Solid (dry weight)
VW8-73-29	1160765009	02/03/2016	02/19/2016	Soil/Solid (dry weight)

Method	Method Description
SW6020A	Metals by ICP-MS (S)
SM21 2540G	Percent Solids SM2540G
SW8270D	SW846 8270 Semi-Volatiles by GC/MS (S)
SW8260B	VOC 8260 (S) Field Extracted

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Detectable Results Summary

Client Sample ID: **HMR16-DP**
Lab Sample ID: 1160765001

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	4.02	mg/Kg
	Cadmium	1.32	mg/Kg
	Chromium	15.1	mg/Kg
	Lead	6.84	mg/Kg
Semivolatile Organics GC/MS	bis(2-Ethylhexyl)phthalate	2.70J	mg/Kg
Volatile GC/MS	1,2,4-Trimethylbenzene	519	ug/Kg
	1,3,5-Trimethylbenzene	317	ug/Kg
	4-Isopropyltoluene	15800	ug/Kg
	Dichlorodifluoromethane	45.9J	ug/Kg
	Ethylbenzene	111	ug/Kg
	Naphthalene	221	ug/Kg
	n-Propylbenzene	79.5	ug/Kg
	o-Xylene	169	ug/Kg
	P & M -Xylene	413	ug/Kg
	sec-Butylbenzene	96.3	ug/Kg
	Toluene	383	ug/Kg
	Trichloroethene	12.9J	ug/Kg
	Xylenes (total)	581	ug/Kg

Client Sample ID: **HMR16-SO**
Lab Sample ID: 1160765002

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	4.37	mg/Kg
	Cadmium	1.33	mg/Kg
	Chromium	10.9	mg/Kg
	Lead	6.66	mg/Kg
Semivolatile Organics GC/MS	bis(2-Ethylhexyl)phthalate	3.39J	mg/Kg
Volatile GC/MS	1,1,2-Trichloroethane	42.2	ug/Kg
	1,2,4-Trimethylbenzene	459	ug/Kg
	1,3,5-Trimethylbenzene	281	ug/Kg
	4-Isopropyltoluene	15500	ug/Kg
	Dichlorodifluoromethane	109	ug/Kg
	Ethylbenzene	104	ug/Kg
	Naphthalene	214	ug/Kg
	n-Propylbenzene	67.3	ug/Kg
	o-Xylene	155	ug/Kg
	P & M -Xylene	397	ug/Kg
	sec-Butylbenzene	77.4	ug/Kg
	Toluene	370	ug/Kg
	Trichloroethene	13.9J	ug/Kg
	Xylenes (total)	552	ug/Kg

Detectable Results Summary

Client Sample ID: **HMR16-EA**
Lab Sample ID: 1160765003

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	5.40	mg/Kg
	Chromium	17.9	mg/Kg
	Lead	3.01	mg/Kg
Volatile GC/MS	4-Isopropyltoluene	116	ug/Kg
	Dichlorodifluoromethane	1240	ug/Kg
	Tetrachloroethene	18.2J	ug/Kg

Client Sample ID: **HMR16-WE**
Lab Sample ID: 1160765004

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	3.93	mg/Kg
	Chromium	20.7	mg/Kg
	Lead	3.27	mg/Kg
Semivolatile Organics GC/MS	bis(2-Ethylhexyl)phthalate	0.135J	mg/Kg
Volatile GC/MS	1,2,4-Trimethylbenzene	155	ug/Kg
	1,3,5-Trimethylbenzene	72.1	ug/Kg
	4-Isopropyltoluene	2780	ug/Kg
	Dichlorodifluoromethane	51.9J	ug/Kg
	Naphthalene	60.4J	ug/Kg
	n-Propylbenzene	29.1J	ug/Kg
	sec-Butylbenzene	33.6J	ug/Kg
	Toluene	16.6J	ug/Kg
	Trichloroethene	8.06J	ug/Kg

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	4.02		1.16	0.359	mg/Kg	10		03/02/16 16:33
Cadmium	1.32		0.232	0.0718	mg/Kg	10		03/02/16 16:33
Chromium	15.1		0.463	0.139	mg/Kg	10		03/02/16 16:33
Lead	6.84		0.232	0.0718	mg/Kg	10		03/02/16 16:33

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Analyst: EAB
Analytical Date/Time: 03/02/16 16:33
Container ID: 1160765001-A

Prep Batch: MXX29542
Prep Method: SW3050B
Prep Date/Time: 02/24/16 10:44
Prep Initial Wt./Vol.: 1.009 g
Prep Extract Vol: 50 mL

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
1,2-Dichlorobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
1,3-Dichlorobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
1,4-Dichlorobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
1-Chloronaphthalene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
1-Methylnaphthalene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,4,5-Trichlorophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,4,6-Trichlorophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,4-Dichlorophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,4-Dimethylphenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,4-Dinitrophenol	42.9	U	85.8	26.9	mg/Kg	5		02/24/16 22:34
2,4-Dinitrotoluene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,6-Dichlorophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2,6-Dinitrotoluene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Chloronaphthalene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Chlorophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Methyl-4,6-dinitrophenol	28.6	U	57.2	17.7	mg/Kg	5		02/24/16 22:34
2-Methylnaphthalene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Methylphenol (o-Cresol)	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Nitroaniline	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
2-Nitrophenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
3&4-Methylphenol (p&m-Cresol)	14.3	U	28.6	8.87	mg/Kg	5		02/24/16 22:34
3,3-Dichlorobenzidine	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
3-Nitroaniline	7.15	U	14.3	4.29	mg/Kg	5		02/24/16 22:34
4-Bromophenyl-phenylether	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
4-Chloro-3-methylphenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
4-Chloroaniline	7.15	U	14.3	4.29	mg/Kg	5		02/24/16 22:34
4-Chlorophenyl-phenylether	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
4-Nitroaniline	42.9	U	85.8	26.9	mg/Kg	5		02/24/16 22:34
4-Nitrophenol	14.3	U	28.6	8.87	mg/Kg	5		02/24/16 22:34
Acenaphthene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Acenaphthylene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Aniline	28.6	U	57.2	17.7	mg/Kg	5		02/24/16 22:34
Anthracene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Azobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Benzo(a)Anthracene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Benzo[a]pyrene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[b]Fluoranthene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Benzo[g,h,i]perylene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Benzo[k]fluoranthene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Benzoic acid	21.4	U	42.9	13.4	mg/Kg	5		02/24/16 22:34
Benzyl alcohol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Bis(2chloro1methylethyl)Ether	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Bis(2-Chloroethoxy)methane	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Bis(2-Chloroethyl)ether	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
bis(2-Ethylhexyl)phthalate	2.70	J	7.15	2.23	mg/Kg	5		02/24/16 22:34
Butylbenzylphthalate	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Carbazole	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Chrysene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Dibenzo[a,h]anthracene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Dibenzofuran	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Diethylphthalate	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Dimethylphthalate	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Di-n-butylphthalate	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
di-n-Octylphthalate	7.15	U	14.3	4.29	mg/Kg	5		02/24/16 22:34
Fluoranthene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Fluorene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Hexachlorobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Hexachlorobutadiene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Hexachlorocyclopentadiene	10.0	U	20.0	5.72	mg/Kg	5		02/24/16 22:34
Hexachloroethane	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Indeno[1,2,3-c,d] pyrene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Isophorone	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Naphthalene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Nitrobenzene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
N-Nitrosodimethylamine	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
N-Nitroso-di-n-propylamine	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
N-Nitrosodiphenylamine	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Pentachlorophenol	28.6	U	57.2	17.7	mg/Kg	5		02/24/16 22:34
Phenanthrene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Phenol	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Pyrene	3.58	U	7.15	2.23	mg/Kg	5		02/24/16 22:34
Surrogates								
2,4,6-Tribromophenol (surr)	85.5		35-125		%	5		02/24/16 22:34

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
2-Fluorobiphenyl (surr)	99.7		44-115		%	5		02/24/16 22:34
2-Fluorophenol (surr)	80.7		35-115		%	5		02/24/16 22:34
Nitrobenzene-d5 (surr)	85.2		37-122		%	5		02/24/16 22:34
Phenol-d6 (surr)	89.9		33-122		%	5		02/24/16 22:34
Terphenyl-d14 (surr)	128	*	54-127		%	5		02/24/16 22:34

Batch Information

Analytical Batch: XMS9195
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 02/24/16 22:34
Container ID: 1160765001-A

Prep Batch: XXX34934
Prep Method: SW3550C
Prep Date/Time: 02/24/16 08:37
Prep Initial Wt./Vol.: 22.973 g
Prep Extract Vol: 5 mL

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Bromomethane	224	U	448	139	ug/Kg	1		02/23/16 17:57
1,1,1,2-Tetrachloroethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,1,1-Trichloroethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,1,2,2-Tetrachloroethane	14.0	U	28.0	8.73	ug/Kg	1		02/23/16 17:57
1,1,2-Trichloroethane	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
1,1-Dichloroethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,1-Dichloroethene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,1-Dichloropropene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,2,3-Trichlorobenzene	56.0	U	112	33.6	ug/Kg	1		02/23/16 17:57
1,2,3-Trichloropropane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,2,4-Trichlorobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,2,4-Trimethylbenzene	519		112	33.6	ug/Kg	1		02/23/16 17:57
1,2-Dibromo-3-chloropropane	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
1,2-Dibromoethane	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
1,2-Dichlorobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,2-Dichloroethane	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
1,2-Dichloropropane	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
1,3,5-Trimethylbenzene	317		56.0	17.5	ug/Kg	1		02/23/16 17:57
1,3-Dichlorobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
1,3-Dichloropropane	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
1,4-Dichlorobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
2,2-Dichloropropane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
2-Butanone (MEK)	280	U	560	175	ug/Kg	1		02/23/16 17:57
2-Chlorotoluene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
2-Hexanone	280	U	560	175	ug/Kg	1		02/23/16 17:57
4-Chlorotoluene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
4-Isopropyltoluene	15800		560	175	ug/Kg	10		02/26/16 20:32
4-Methyl-2-pentanone (MIBK)	280	U	560	175	ug/Kg	1		02/23/16 17:57
Benzene	14.0	U	28.0	8.73	ug/Kg	1		02/23/16 17:57
Bromobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Bromochloromethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Bromodichloromethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Bromoform	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Carbon disulfide	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
Carbon tetrachloride	14.0	U	28.0	8.73	ug/Kg	1		02/23/16 17:57
Chlorobenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Chloroethane	224	U	448	139	ug/Kg	1		02/23/16 17:57

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Chloromethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
cis-1,2-Dichloroethene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
cis-1,3-Dichloropropene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Dibromochloromethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Dibromomethane	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Dichlorodifluoromethane	45.9	J	112	33.6	ug/Kg	1		02/23/16 17:57
Ethylbenzene	111		56.0	17.5	ug/Kg	1		02/23/16 17:57
Freon-113	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
Hexachlorobutadiene	56.0	U	112	33.6	ug/Kg	1		02/23/16 17:57
Isopropylbenzene (Cumene)	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Methylene chloride	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
Methyl-t-butyl ether	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
Naphthalene	221		112	33.6	ug/Kg	1		03/01/16 19:03
n-Butylbenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
n-Propylbenzene	79.5		56.0	17.5	ug/Kg	1		02/23/16 17:57
o-Xylene	169		56.0	17.5	ug/Kg	1		02/23/16 17:57
P & M -Xylene	413		112	33.6	ug/Kg	1		02/23/16 17:57
sec-Butylbenzene	96.3		56.0	17.5	ug/Kg	1		02/23/16 17:57
Styrene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
tert-Butylbenzene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Tetrachloroethene	14.0	U	28.0	8.73	ug/Kg	1		02/23/16 17:57
Toluene	383		56.0	17.5	ug/Kg	1		02/23/16 17:57
trans-1,2-Dichloroethene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
trans-1,3-Dichloropropene	28.0	U	56.0	17.5	ug/Kg	1		02/23/16 17:57
Trichloroethene	12.9	J	28.0	8.73	ug/Kg	1		02/23/16 17:57
Trichlorofluoromethane	56.0	U	112	33.6	ug/Kg	1		02/23/16 17:57
Vinyl acetate	112	U	224	69.4	ug/Kg	1		02/23/16 17:57
Vinyl chloride	11.2	U	22.4	6.94	ug/Kg	1		02/23/16 17:57
Xylenes (total)	581		168	51.1	ug/Kg	1		02/23/16 17:57
Surrogates								
1,2-Dichloroethane-D4 (surr)	113		71-136		%	1		02/23/16 17:57
4-Bromofluorobenzene (surr)	80.5		55-151		%	1		02/23/16 17:57
Toluene-d8 (surr)	103		85-116		%	1		02/23/16 17:57

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-DP**

Client Sample ID: **HMR16-DP**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765001
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):85.6
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS15599
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/23/16 17:57
Container ID: 1160765001-B

Prep Batch: VXX28534
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 30.685 g
Prep Extract Vol: 29.4146 mL

Analytical Batch: VMS15605
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/26/16 20:32
Container ID: 1160765001-B

Prep Batch: VXX28542
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 30.685 g
Prep Extract Vol: 29.4146 mL

Analytical Batch: VMS15608
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 03/01/16 19:03
Container ID:

Prep Batch: VXX28550
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 30.685 g
Prep Extract Vol: 29.4146 mL

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	4.37		1.09	0.339	mg/Kg	10		03/02/16 16:38
Cadmium	1.33		0.219	0.0678	mg/Kg	10		03/02/16 16:38
Chromium	10.9		0.438	0.131	mg/Kg	10		03/02/16 16:38
Lead	6.66		0.219	0.0678	mg/Kg	10		03/02/16 16:38

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Analyst: EAB
Analytical Date/Time: 03/02/16 16:38
Container ID: 1160765002-A

Prep Batch: MXX29542
Prep Method: SW3050B
Prep Date/Time: 02/24/16 10:44
Prep Initial Wt./Vol.: 1.062 g
Prep Extract Vol: 50 mL

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
1,2-Dichlorobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
1,3-Dichlorobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
1,4-Dichlorobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
1-Chloronaphthalene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
1-Methylnaphthalene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,4,5-Trichlorophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,4,6-Trichlorophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,4-Dichlorophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,4-Dimethylphenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,4-Dinitrophenol	43.5	U	87.0	27.3	mg/Kg	5		02/24/16 22:51
2,4-Dinitrotoluene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,6-Dichlorophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2,6-Dinitrotoluene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Chloronaphthalene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Chlorophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Methyl-4,6-dinitrophenol	29.0	U	58.0	18.0	mg/Kg	5		02/24/16 22:51
2-Methylnaphthalene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Methylphenol (o-Cresol)	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Nitroaniline	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
2-Nitrophenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
3&4-Methylphenol (p&m-Cresol)	14.5	U	29.0	8.99	mg/Kg	5		02/24/16 22:51
3,3-Dichlorobenzidine	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
3-Nitroaniline	7.25	U	14.5	4.35	mg/Kg	5		02/24/16 22:51
4-Bromophenyl-phenylether	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
4-Chloro-3-methylphenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
4-Chloroaniline	7.25	U	14.5	4.35	mg/Kg	5		02/24/16 22:51
4-Chlorophenyl-phenylether	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
4-Nitroaniline	43.5	U	87.0	27.3	mg/Kg	5		02/24/16 22:51
4-Nitrophenol	14.5	U	29.0	8.99	mg/Kg	5		02/24/16 22:51
Acenaphthene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Acenaphthylene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Aniline	29.0	U	58.0	18.0	mg/Kg	5		02/24/16 22:51
Anthracene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Azobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Benzo(a)Anthracene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Benzo[a]pyrene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[b]Fluoranthene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Benzo[g,h,i]perylene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Benzo[k]fluoranthene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Benzoic acid	21.8	U	43.5	13.6	mg/Kg	5		02/24/16 22:51
Benzyl alcohol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Bis(2chloro1methylethyl)Ether	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Bis(2-Chloroethoxy)methane	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Bis(2-Chloroethyl)ether	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
bis(2-Ethylhexyl)phthalate	3.39	J	7.25	2.26	mg/Kg	5		02/24/16 22:51
Butylbenzylphthalate	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Carbazole	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Chrysene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Dibenzo[a,h]anthracene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Dibenzofuran	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Diethylphthalate	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Dimethylphthalate	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Di-n-butylphthalate	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
di-n-Octylphthalate	7.25	U	14.5	4.35	mg/Kg	5		02/24/16 22:51
Fluoranthene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Fluorene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Hexachlorobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Hexachlorobutadiene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Hexachlorocyclopentadiene	10.2	U	20.3	5.80	mg/Kg	5		02/24/16 22:51
Hexachloroethane	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Indeno[1,2,3-c,d] pyrene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Isophorone	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Naphthalene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Nitrobenzene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
N-Nitrosodimethylamine	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
N-Nitroso-di-n-propylamine	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
N-Nitrosodiphenylamine	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Pentachlorophenol	29.0	U	58.0	18.0	mg/Kg	5		02/24/16 22:51
Phenanthrene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Phenol	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Pyrene	3.63	U	7.25	2.26	mg/Kg	5		02/24/16 22:51
Surrogates								
2,4,6-Tribromophenol (surr)	80		35-125		%	5		02/24/16 22:51

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
2-Fluorobiphenyl (surr)	98.2		44-115		%	5		02/24/16 22:51
2-Fluorophenol (surr)	74.3		35-115		%	5		02/24/16 22:51
Nitrobenzene-d5 (surr)	83.9		37-122		%	5		02/24/16 22:51
Phenol-d6 (surr)	89.2		33-122		%	5		02/24/16 22:51
Terphenyl-d14 (surr)	123		54-127		%	5		02/24/16 22:51

Batch Information

Analytical Batch: XMS9195
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 02/24/16 22:51
Container ID: 1160765002-A

Prep Batch: XXX34934
Prep Method: SW3550C
Prep Date/Time: 02/24/16 08:37
Prep Initial Wt./Vol.: 22.547 g
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,1,1-Trichloroethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,1,2,2-Tetrachloroethane	13.4	U	26.7	8.33	ug/Kg	1		02/23/16 18:13
1,1,2-Trichloroethane	42.2		21.4	6.62	ug/Kg	1		02/23/16 18:13
1,1-Dichloroethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,1-Dichloroethene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,1-Dichloropropene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,2,3-Trichlorobenzene	53.5	U	107	32.0	ug/Kg	1		02/23/16 18:13
1,2,3-Trichloropropane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,2,4-Trichlorobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,2,4-Trimethylbenzene	459		107	32.0	ug/Kg	1		02/23/16 18:13
1,2-Dibromo-3-chloropropane	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
1,2-Dibromoethane	10.7	U	21.4	6.62	ug/Kg	1		02/23/16 18:13
1,2-Dichlorobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,2-Dichloroethane	10.7	U	21.4	6.62	ug/Kg	1		02/23/16 18:13
1,2-Dichloropropane	10.7	U	21.4	6.62	ug/Kg	1		02/23/16 18:13
1,3,5-Trimethylbenzene	281		53.4	16.7	ug/Kg	1		02/23/16 18:13
1,3-Dichlorobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
1,3-Dichloropropane	10.7	U	21.4	6.62	ug/Kg	1		02/23/16 18:13
1,4-Dichlorobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
2,2-Dichloropropane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
2-Butanone (MEK)	267	U	534	167	ug/Kg	1		02/23/16 18:13
2-Chlorotoluene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
2-Hexanone	267	U	534	167	ug/Kg	1		02/23/16 18:13
4-Chlorotoluene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
4-Isopropyltoluene	15500		534	167	ug/Kg	10		02/26/16 20:48
4-Methyl-2-pentanone (MIBK)	267	U	534	167	ug/Kg	1		02/23/16 18:13
Benzene	13.4	U	26.7	8.33	ug/Kg	1		02/23/16 18:13
Bromobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Bromochloromethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Bromodichloromethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Bromoform	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Bromomethane	214	U	427	132	ug/Kg	1		02/23/16 18:13
Carbon disulfide	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
Carbon tetrachloride	13.4	U	26.7	8.33	ug/Kg	1		02/23/16 18:13
Chlorobenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Chloroethane	214	U	427	132	ug/Kg	1		02/23/16 18:13

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Chloromethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
cis-1,2-Dichloroethene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
cis-1,3-Dichloropropene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Dibromochloromethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Dibromomethane	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Dichlorodifluoromethane	109		107	32.0	ug/Kg	1		02/23/16 18:13
Ethylbenzene	104		53.4	16.7	ug/Kg	1		02/23/16 18:13
Freon-113	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
Hexachlorobutadiene	53.5	U	107	32.0	ug/Kg	1		02/23/16 18:13
Isopropylbenzene (Cumene)	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Methylene chloride	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
Methyl-t-butyl ether	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
Naphthalene	214		107	32.0	ug/Kg	1		03/01/16 19:19
n-Butylbenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
n-Propylbenzene	67.3		53.4	16.7	ug/Kg	1		02/23/16 18:13
o-Xylene	155		53.4	16.7	ug/Kg	1		02/23/16 18:13
P & M -Xylene	397		107	32.0	ug/Kg	1		02/23/16 18:13
sec-Butylbenzene	77.4		53.4	16.7	ug/Kg	1		02/23/16 18:13
Styrene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
tert-Butylbenzene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Tetrachloroethene	13.4	U	26.7	8.33	ug/Kg	1		02/23/16 18:13
Toluene	370		53.4	16.7	ug/Kg	1		02/23/16 18:13
trans-1,2-Dichloroethene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
trans-1,3-Dichloropropene	26.7	U	53.4	16.7	ug/Kg	1		02/23/16 18:13
Trichloroethene	13.9	J	26.7	8.33	ug/Kg	1		02/23/16 18:13
Trichlorofluoromethane	53.5	U	107	32.0	ug/Kg	1		02/23/16 18:13
Vinyl acetate	107	U	214	66.2	ug/Kg	1		02/23/16 18:13
Vinyl chloride	10.7	U	21.4	6.62	ug/Kg	1		02/23/16 18:13
Xylenes (total)	552		160	48.7	ug/Kg	1		02/23/16 18:13
Surrogates								
1,2-Dichloroethane-D4 (surr)	117		71-136		%	1		02/23/16 18:13
4-Bromofluorobenzene (surr)	75.7		55-151		%	1		02/23/16 18:13
Toluene-d8 (surr)	99.4		85-116		%	1		02/23/16 18:13

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-SO**

Client Sample ID: **HMR16-SO**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765002
Lab Project ID: 1160765

Collection Date: 02/18/16 08:55
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):86.0
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS15599
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/23/16 18:13
Container ID: 1160765002-B

Prep Batch: VXX28534
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 32.074 g
Prep Extract Vol: 29.4764 mL

Analytical Batch: VMS15605
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/26/16 20:48
Container ID: 1160765002-B

Prep Batch: VXX28542
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 32.074 g
Prep Extract Vol: 29.4764 mL

Analytical Batch: VMS15608
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 03/01/16 19:19
Container ID:

Prep Batch: VXX28550
Prep Method: SW5035A
Prep Date/Time: 02/18/16 08:55
Prep Initial Wt./Vol.: 32.074 g
Prep Extract Vol: 29.4764 mL

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	5.40		1.06	0.328	mg/Kg	10		03/02/16 16:51
Cadmium	0.106	U	0.212	0.0656	mg/Kg	10		03/02/16 16:51
Chromium	17.9		0.423	0.127	mg/Kg	10		03/02/16 16:51
Lead	3.01		0.212	0.0656	mg/Kg	10		03/02/16 16:51

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Analyst: EAB
Analytical Date/Time: 03/02/16 16:51
Container ID: 1160765003-A

Prep Batch: MXX29542
Prep Method: SW3050B
Prep Date/Time: 02/24/16 10:44
Prep Initial Wt./Vol.: 1.065 g
Prep Extract Vol: 50 mL

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
1,2-Dichlorobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
1,3-Dichlorobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
1,4-Dichlorobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
1-Chloronaphthalene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
1-Methylnaphthalene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,4,5-Trichlorophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,4,6-Trichlorophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,4-Dichlorophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,4-Dimethylphenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,4-Dinitrophenol	1.66	U	3.31	1.04	mg/Kg	1		02/24/16 20:52
2,4-Dinitrotoluene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,6-Dichlorophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2,6-Dinitrotoluene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Chloronaphthalene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Chlorophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Methyl-4,6-dinitrophenol	1.11	U	2.21	0.685	mg/Kg	1		02/24/16 20:52
2-Methylnaphthalene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Methylphenol (o-Cresol)	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Nitroaniline	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
2-Nitrophenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
3&4-Methylphenol (p&m-Cresol)	0.550	U	1.10	0.342	mg/Kg	1		02/24/16 20:52
3,3-Dichlorobenzidine	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
3-Nitroaniline	0.276	U	0.552	0.166	mg/Kg	1		02/24/16 20:52
4-Bromophenyl-phenylether	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
4-Chloro-3-methylphenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
4-Chloroaniline	0.276	U	0.552	0.166	mg/Kg	1		02/24/16 20:52
4-Chlorophenyl-phenylether	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
4-Nitroaniline	1.66	U	3.31	1.04	mg/Kg	1		02/24/16 20:52
4-Nitrophenol	0.550	U	1.10	0.342	mg/Kg	1		02/24/16 20:52
Acenaphthene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Acenaphthylene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Aniline	1.11	U	2.21	0.685	mg/Kg	1		02/24/16 20:52
Anthracene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Azobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Benzo(a)Anthracene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Benzo[a]pyrene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[b]Fluoranthene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Benzo[g,h,i]perylene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Benzo[k]fluoranthene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Benzoic acid	0.830	U	1.66	0.519	mg/Kg	1		02/24/16 20:52
Benzyl alcohol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Bis(2chloro1methylethyl)Ether	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Bis(2-Chloroethoxy)methane	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Bis(2-Chloroethyl)ether	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
bis(2-Ethylhexyl)phthalate	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Butylbenzylphthalate	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Carbazole	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Chrysene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Dibenzo[a,h]anthracene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Dibenzofuran	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Diethylphthalate	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Dimethylphthalate	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Di-n-butylphthalate	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
di-n-Octylphthalate	0.276	U	0.552	0.166	mg/Kg	1		02/24/16 20:52
Fluoranthene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Fluorene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Hexachlorobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Hexachlorobutadiene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Hexachlorocyclopentadiene	0.387	U	0.773	0.221	mg/Kg	1		02/24/16 20:52
Hexachloroethane	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Indeno[1,2,3-c,d] pyrene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Isophorone	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Naphthalene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Nitrobenzene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
N-Nitrosodimethylamine	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
N-Nitroso-di-n-propylamine	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
N-Nitrosodiphenylamine	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Pentachlorophenol	1.11	U	2.21	0.685	mg/Kg	1		02/24/16 20:52
Phenanthrene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Phenol	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Pyrene	0.138	U	0.276	0.0862	mg/Kg	1		02/24/16 20:52
Surrogates								
2,4,6-Tribromophenol (surr)	106		35-125		%	1		02/24/16 20:52

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
2-Fluorobiphenyl (surr)	84.4		44-115		%	1		02/24/16 20:52
2-Fluorophenol (surr)	63.1		35-115		%	1		02/24/16 20:52
Nitrobenzene-d5 (surr)	71.1		37-122		%	1		02/24/16 20:52
Phenol-d6 (surr)	69.2		33-122		%	1		02/24/16 20:52
Terphenyl-d14 (surr)	114		54-127		%	1		02/24/16 20:52

Batch Information

Analytical Batch: XMS9195
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 02/24/16 20:52
Container ID: 1160765003-A

Prep Batch: XXX34934
Prep Method: SW3550C
Prep Date/Time: 02/24/16 08:37
Prep Initial Wt./Vol.: 22.945 g
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,1,1-Trichloroethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,1,2,2-Tetrachloroethane	13.8	U	27.6	8.62	ug/Kg	1		02/26/16 22:23
1,1,2-Trichloroethane	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
1,1-Dichloroethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,1-Dichloroethene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,1-Dichloropropene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,2,3-Trichlorobenzene	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
1,2,3-Trichloropropane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,2,4-Trichlorobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,2,4-Trimethylbenzene	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
1,2-Dibromo-3-chloropropane	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
1,2-Dibromoethane	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
1,2-Dichlorobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,2-Dichloroethane	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
1,2-Dichloropropane	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
1,3,5-Trimethylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,3-Dichlorobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
1,3-Dichloropropane	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
1,4-Dichlorobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
2,2-Dichloropropane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
2-Butanone (MEK)	277	U	553	172	ug/Kg	1		02/26/16 22:23
2-Chlorotoluene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
2-Hexanone	277	U	553	172	ug/Kg	1		02/26/16 22:23
4-Chlorotoluene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
4-Isopropyltoluene	116		55.3	17.2	ug/Kg	1		02/26/16 22:23
4-Methyl-2-pentanone (MIBK)	277	U	553	172	ug/Kg	1		02/26/16 22:23
Benzene	13.8	U	27.6	8.62	ug/Kg	1		02/26/16 22:23
Bromobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Bromochloromethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Bromodichloromethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Bromoform	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Bromomethane	221	U	442	137	ug/Kg	1		02/26/16 22:23
Carbon disulfide	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
Carbon tetrachloride	13.8	U	27.6	8.62	ug/Kg	1		02/26/16 22:23
Chlorobenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Chloroethane	221	U	442	137	ug/Kg	1		02/26/16 22:23

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Chloromethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
cis-1,2-Dichloroethene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
cis-1,3-Dichloropropene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Dibromochloromethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Dibromomethane	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Dichlorodifluoromethane	1240		111	33.2	ug/Kg	1		02/26/16 22:23
Ethylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Freon-113	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
Hexachlorobutadiene	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
Isopropylbenzene (Cumene)	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Methylene chloride	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
Methyl-t-butyl ether	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
Naphthalene	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
n-Butylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
n-Propylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
o-Xylene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
P & M -Xylene	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
sec-Butylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Styrene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
tert-Butylbenzene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Tetrachloroethene	18.2	J	27.6	8.62	ug/Kg	1		02/26/16 22:23
Toluene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
trans-1,2-Dichloroethene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
trans-1,3-Dichloropropene	27.6	U	55.3	17.2	ug/Kg	1		02/26/16 22:23
Trichloroethene	13.8	U	27.6	8.62	ug/Kg	1		02/26/16 22:23
Trichlorofluoromethane	55.5	U	111	33.2	ug/Kg	1		02/26/16 22:23
Vinyl acetate	111	U	221	68.6	ug/Kg	1		02/26/16 22:23
Vinyl chloride	11.1	U	22.1	6.86	ug/Kg	1		02/26/16 22:23
Xylenes (total)	83.0	U	166	50.4	ug/Kg	1		02/26/16 22:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	126		71-136		%	1		02/26/16 22:23
4-Bromofluorobenzene (surr)	95.6		55-151		%	1		02/26/16 22:23
Toluene-d8 (surr)	110		85-116		%	1		02/26/16 22:23

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-EA**

Client Sample ID: **HMR16-EA**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765003
Lab Project ID: 1160765

Collection Date: 02/18/16 10:12
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS15605
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/26/16 22:23
Container ID: 1160765003-B

Prep Batch: VXX28542
Prep Method: SW5035A
Prep Date/Time: 02/18/16 10:12
Prep Initial Wt./Vol.: 28.755 g
Prep Extract Vol: 28.2273 mL

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	3.93		1.01	0.312	mg/Kg	10		03/02/16 16:42
Cadmium	0.101	U	0.201	0.0624	mg/Kg	10		03/02/16 16:42
Chromium	20.7		0.402	0.121	mg/Kg	10		03/02/16 16:42
Lead	3.27		0.201	0.0624	mg/Kg	10		03/02/16 16:42

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Analyst: EAB
Analytical Date/Time: 03/02/16 16:42
Container ID: 1160765004-A

Prep Batch: MXX29542
Prep Method: SW3050B
Prep Date/Time: 02/24/16 10:44
Prep Initial Wt./Vol.: 1.077 g
Prep Extract Vol: 50 mL

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
1,2-Dichlorobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
1,3-Dichlorobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
1,4-Dichlorobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
1-Chloronaphthalene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
1-Methylnaphthalene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,4,5-Trichlorophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,4,6-Trichlorophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,4-Dichlorophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,4-Dimethylphenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,4-Dinitrophenol	1.60	U	3.19	0.999	mg/Kg	1		02/24/16 21:09
2,4-Dinitrotoluene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,6-Dichlorophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2,6-Dinitrotoluene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Chloronaphthalene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Chlorophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Methyl-4,6-dinitrophenol	1.06	U	2.12	0.659	mg/Kg	1		02/24/16 21:09
2-Methylnaphthalene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Methylphenol (o-Cresol)	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Nitroaniline	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
2-Nitrophenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
3&4-Methylphenol (p&m-Cresol)	0.530	U	1.06	0.329	mg/Kg	1		02/24/16 21:09
3,3-Dichlorobenzidine	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
3-Nitroaniline	0.266	U	0.531	0.159	mg/Kg	1		02/24/16 21:09
4-Bromophenyl-phenylether	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
4-Chloro-3-methylphenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
4-Chloroaniline	0.266	U	0.531	0.159	mg/Kg	1		02/24/16 21:09
4-Chlorophenyl-phenylether	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
4-Nitroaniline	1.60	U	3.19	0.999	mg/Kg	1		02/24/16 21:09
4-Nitrophenol	0.530	U	1.06	0.329	mg/Kg	1		02/24/16 21:09
Acenaphthene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Acenaphthylene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Aniline	1.06	U	2.12	0.659	mg/Kg	1		02/24/16 21:09
Anthracene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Azobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Benzo(a)Anthracene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Benzo[a]pyrene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[b]Fluoranthene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Benzo[g,h,i]perylene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Benzo[k]fluoranthene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Benzoic acid	0.795	U	1.59	0.499	mg/Kg	1		02/24/16 21:09
Benzyl alcohol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Bis(2chloro1methylethyl)Ether	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Bis(2-Chloroethoxy)methane	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Bis(2-Chloroethyl)ether	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
bis(2-Ethylhexyl)phthalate	0.135	J	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Butylbenzylphthalate	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Carbazole	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Chrysene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Dibenzo[a,h]anthracene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Dibenzofuran	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Diethylphthalate	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Dimethylphthalate	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Di-n-butylphthalate	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
di-n-Octylphthalate	0.266	U	0.531	0.159	mg/Kg	1		02/24/16 21:09
Fluoranthene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Fluorene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Hexachlorobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Hexachlorobutadiene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Hexachlorocyclopentadiene	0.372	U	0.744	0.212	mg/Kg	1		02/24/16 21:09
Hexachloroethane	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Indeno[1,2,3-c,d] pyrene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Isophorone	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Naphthalene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Nitrobenzene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
N-Nitrosodimethylamine	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
N-Nitroso-di-n-propylamine	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
N-Nitrosodiphenylamine	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Pentachlorophenol	1.06	U	2.12	0.659	mg/Kg	1		02/24/16 21:09
Phenanthrene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Phenol	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Pyrene	0.133	U	0.266	0.0829	mg/Kg	1		02/24/16 21:09
Surrogates								
2,4,6-Tribromophenol (surr)	107		35-125		%	1		02/24/16 21:09

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
2-Fluorobiphenyl (surr)	86		44-115		%	1		02/24/16 21:09
2-Fluorophenol (surr)	65.6		35-115		%	1		02/24/16 21:09
Nitrobenzene-d5 (surr)	76.5		37-122		%	1		02/24/16 21:09
Phenol-d6 (surr)	73.1		33-122		%	1		02/24/16 21:09
Terphenyl-d14 (surr)	108		54-127		%	1		02/24/16 21:09

Batch Information

Analytical Batch: XMS9195
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 02/24/16 21:09
Container ID: 1160765004-A

Prep Batch: XXX34934
Prep Method: SW3550C
Prep Date/Time: 02/24/16 08:37
Prep Initial Wt./Vol.: 22.952 g
Prep Extract Vol: 1 mL

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,1,1-Trichloroethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,1,2,2-Tetrachloroethane	11.2	U	22.4	6.98	ug/Kg	1		02/26/16 22:39
1,1,2-Trichloroethane	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
1,1-Dichloroethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,1-Dichloroethene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,1-Dichloropropene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,2,3-Trichlorobenzene	44.8	U	89.5	26.9	ug/Kg	1		02/26/16 22:39
1,2,3-Trichloropropane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,2,4-Trichlorobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,2,4-Trimethylbenzene	155		89.5	26.9	ug/Kg	1		02/26/16 22:39
1,2-Dibromo-3-chloropropane	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
1,2-Dibromoethane	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
1,2-Dichlorobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,2-Dichloroethane	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
1,2-Dichloropropane	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
1,3,5-Trimethylbenzene	72.1		44.8	14.0	ug/Kg	1		02/26/16 22:39
1,3-Dichlorobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
1,3-Dichloropropane	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
1,4-Dichlorobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
2,2-Dichloropropane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
2-Butanone (MEK)	224	U	448	140	ug/Kg	1		02/26/16 22:39
2-Chlorotoluene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
2-Hexanone	224	U	448	140	ug/Kg	1		02/26/16 22:39
4-Chlorotoluene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
4-Isopropyltoluene	2780		44.8	14.0	ug/Kg	1		02/26/16 22:39
4-Methyl-2-pentanone (MIBK)	224	U	448	140	ug/Kg	1		02/26/16 22:39
Benzene	11.2	U	22.4	6.98	ug/Kg	1		02/26/16 22:39
Bromobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Bromochloromethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Bromodichloromethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Bromoform	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Bromomethane	179	U	358	111	ug/Kg	1		02/26/16 22:39
Carbon disulfide	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
Carbon tetrachloride	11.2	U	22.4	6.98	ug/Kg	1		02/26/16 22:39
Chlorobenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Chloroethane	179	U	358	111	ug/Kg	1		02/26/16 22:39

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Chloromethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
cis-1,2-Dichloroethene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
cis-1,3-Dichloropropene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Dibromochloromethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Dibromomethane	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Dichlorodifluoromethane	51.9	J	89.5	26.9	ug/Kg	1		02/26/16 22:39
Ethylbenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Freon-113	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
Hexachlorobutadiene	44.8	U	89.5	26.9	ug/Kg	1		02/26/16 22:39
Isopropylbenzene (Cumene)	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Methylene chloride	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
Methyl-t-butyl ether	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
Naphthalene	60.4	J	89.5	26.9	ug/Kg	1		03/01/16 18:47
n-Butylbenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
n-Propylbenzene	29.1	J	44.8	14.0	ug/Kg	1		02/26/16 22:39
o-Xylene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
P & M -Xylene	44.8	U	89.5	26.9	ug/Kg	1		02/26/16 22:39
sec-Butylbenzene	33.6	J	44.8	14.0	ug/Kg	1		02/26/16 22:39
Styrene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
tert-Butylbenzene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Tetrachloroethene	11.2	U	22.4	6.98	ug/Kg	1		02/26/16 22:39
Toluene	16.6	J	44.8	14.0	ug/Kg	1		02/26/16 22:39
trans-1,2-Dichloroethene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
trans-1,3-Dichloropropene	22.4	U	44.8	14.0	ug/Kg	1		02/26/16 22:39
Trichloroethene	8.06	J	22.4	6.98	ug/Kg	1		02/26/16 22:39
Trichlorofluoromethane	44.8	U	89.5	26.9	ug/Kg	1		02/26/16 22:39
Vinyl acetate	89.5	U	179	55.5	ug/Kg	1		02/26/16 22:39
Vinyl chloride	8.95	U	17.9	5.55	ug/Kg	1		02/26/16 22:39
Xylenes (total)	67.0	U	134	40.8	ug/Kg	1		02/26/16 22:39
Surrogates								
1,2-Dichloroethane-D4 (surr)	124		71-136		%	1		02/26/16 22:39
4-Bromofluorobenzene (surr)	87.8		55-151		%	1		02/26/16 22:39
Toluene-d8 (surr)	108		85-116		%	1		02/26/16 22:39

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **HMR16-WE**

Client Sample ID: **HMR16-WE**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765004
Lab Project ID: 1160765

Collection Date: 02/18/16 10:42
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):92.3
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS15605
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/26/16 22:39
Container ID: 1160765004-B

Prep Batch: VXX28542
Prep Method: SW5035A
Prep Date/Time: 02/18/16 10:42
Prep Initial Wt./Vol.: 33.371 g
Prep Extract Vol: 27.5765 mL

Analytical Batch: VMS15608
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 03/01/16 18:47
Container ID:

Prep Batch: VXX28550
Prep Method: SW5035A
Prep Date/Time: 02/18/16 10:42
Prep Initial Wt./Vol.: 33.371 g
Prep Extract Vol: 27.5765 mL

Results of **VW8-73-29**

Client Sample ID: **VW8-73-29**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765009
Lab Project ID: 1160765

Collection Date: 02/03/16 08:00
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,1,1-Trichloroethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,1,2,2-Tetrachloroethane	6.30	U	12.6	3.93	ug/Kg	1		02/23/16 19:01
1,1,2-Trichloroethane	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
1,1-Dichloroethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,1-Dichloroethene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,1-Dichloropropene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,2,3-Trichlorobenzene	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
1,2,3-Trichloropropane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,2,4-Trichlorobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,2,4-Trimethylbenzene	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
1,2-Dibromo-3-chloropropane	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
1,2-Dibromoethane	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
1,2-Dichlorobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,2-Dichloroethane	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
1,2-Dichloropropane	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
1,3,5-Trimethylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,3-Dichlorobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
1,3-Dichloropropane	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
1,4-Dichlorobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
2,2-Dichloropropane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
2-Butanone (MEK)	126	U	252	78.7	ug/Kg	1		02/23/16 19:01
2-Chlorotoluene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
2-Hexanone	126	U	252	78.7	ug/Kg	1		02/23/16 19:01
4-Chlorotoluene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
4-Isopropyltoluene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
4-Methyl-2-pentanone (MIBK)	126	U	252	78.7	ug/Kg	1		02/23/16 19:01
Benzene	6.30	U	12.6	3.93	ug/Kg	1		02/23/16 19:01
Bromobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Bromochloromethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Bromodichloromethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Bromoform	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Bromomethane	101	U	202	62.5	ug/Kg	1		02/23/16 19:01
Carbon disulfide	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
Carbon tetrachloride	6.30	U	12.6	3.93	ug/Kg	1		02/23/16 19:01
Chlorobenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Chloroethane	101	U	202	62.5	ug/Kg	1		02/23/16 19:01

Results of **VW8-73-29**

Client Sample ID: **VW8-73-29**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765009
Lab Project ID: 1160765

Collection Date: 02/03/16 08:00
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Chloromethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
cis-1,2-Dichloroethene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
cis-1,3-Dichloropropene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Dibromochloromethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Dibromomethane	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Dichlorodifluoromethane	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
Ethylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Freon-113	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
Hexachlorobutadiene	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
Isopropylbenzene (Cumene)	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Methylene chloride	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
Methyl-t-butyl ether	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
Naphthalene	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
n-Butylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
n-Propylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
o-Xylene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
P & M -Xylene	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
sec-Butylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Styrene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
tert-Butylbenzene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Tetrachloroethene	6.30	U	12.6	3.93	ug/Kg	1		02/23/16 19:01
Toluene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
trans-1,2-Dichloroethene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
trans-1,3-Dichloropropene	12.6	U	25.2	7.87	ug/Kg	1		02/23/16 19:01
Trichloroethene	6.30	U	12.6	3.93	ug/Kg	1		02/23/16 19:01
Trichlorofluoromethane	25.2	U	50.4	15.1	ug/Kg	1		02/23/16 19:01
Vinyl acetate	50.5	U	101	31.3	ug/Kg	1		02/23/16 19:01
Vinyl chloride	5.05	U	10.1	3.13	ug/Kg	1		02/23/16 19:01
Xylenes (total)	37.9	U	75.7	23.0	ug/Kg	1		02/23/16 19:01
Surrogates								
1,2-Dichloroethane-D4 (surr)	113		71-136		%	1		02/23/16 19:01
4-Bromofluorobenzene (surr)	93.9		55-151		%	1		02/23/16 19:01
Toluene-d8 (surr)	107		85-116		%	1		02/23/16 19:01

Print Date: 03/04/2016 10:25:16AM

J flagging is activated

Results of **VW8-73-29**

Client Sample ID: **VW8-73-29**
Client Project ID: **Homer/Ninilchik**
Lab Sample ID: 1160765009
Lab Project ID: 1160765

Collection Date: 02/03/16 08:00
Received Date: 02/19/16 10:30
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS15599
Analytical Method: SW8260B
Analyst: KAS
Analytical Date/Time: 02/23/16 19:01
Container ID: 1160765009-A

Prep Batch: VXX28534
Prep Method: SW5035A
Prep Date/Time: 02/03/16 08:00
Prep Initial Wt./Vol.: 49.566 g
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1729374 [MXX/29542]
Blank Lab ID: 1313791

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765003, 1160765004

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Arsenic	0.500U	1.00	0.310	mg/Kg
Cadmium	0.100U	0.200	0.0620	mg/Kg
Chromium	0.200U	0.400	0.120	mg/Kg
Lead	0.100U	0.200	0.0620	mg/Kg

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: EAB
Analytical Date/Time: 3/2/2016 3:28:51PM

Prep Batch: MXX29542
Prep Method: SW3050B
Prep Date/Time: 2/24/2016 10:44:30AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [MXX29542]
Blank Spike Lab ID: 1313792
Date Analyzed: 03/02/2016 15:33

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW6020A**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Arsenic	50	49.5	99	(82-118)
Cadmium	5	4.72	94	(84-116)
Chromium	20	19.4	97	(83-119)
Lead	50	48.0	96	(84-118)

Batch Information

Analytical Batch: **MMS9262**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexion P5**
Analyst: **EAB**

Prep Batch: **MXX29542**
Prep Method: **SW3050B**
Prep Date/Time: **02/24/2016 10:44**
Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1313793
MS Sample ID: 1313794 MS
MSD Sample ID: 1313795 MSD

Analysis Date: 03/02/2016 16:51
Analysis Date: 03/02/2016 16:56
Analysis Date: 03/02/2016 17:00
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW6020A**

		Matrix Spike (mg/Kg)				Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	4.80	47.7	50	95		49.3	48.4	89	82-118	3.23	(< 20)
Cadmium	0.0940U	4.77	4.53	95		4.93	4.23	86	84-116	6.68	(< 20)
Chromium	15.9	19.1	41.4	134	*	19.7	36.0	102	83-119	13.80	(< 20)
Lead	2.67	47.7	49.1	97		49.3	46.7	89	84-118	5.02	(< 20)

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: EAB
Analytical Date/Time: 3/2/2016 4:56:15PM

Prep Batch: MXX29542
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 2/24/2016 10:44:30AM
Prep Initial Wt./Vol.: 1.05g
Prep Extract Vol: 50.00mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Bench Spike Summary

Original Sample ID: 1313793
MS Sample ID: 1313796 BND
MSD Sample ID:

Analysis Date: 03/02/2016 16:51
Analysis Date: 03/02/2016 17:09
Analysis Date:
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chromium	15.9	117	137	103				80-120		

Batch Information

Analytical Batch: MMS9262
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: EAB
Analytical Date/Time: 3/2/2016 5:09:39PM

Prep Batch: MXX29542
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 2/24/2016 10:44:30AM
Prep Initial Wt./Vol.: 1.07g
Prep Extract Vol: 50.00mL

Print Date: 03/04/2016 10:25:22AM

Method Blank

Blank ID: MB for HBN 1729369 [SPT/9839]
Blank Lab ID: 1313756

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765003, 1160765004

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	100			%

Batch Information

Analytical Batch: SPT9839
Analytical Method: SM21 2540G
Instrument:
Analyst: K.W
Analytical Date/Time: 2/23/2016 4:34:00PM

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Duplicate Sample Summary

Original Sample ID: 1160776001
Duplicate Sample ID: 1313757
QC for Samples:
1160765001, 1160765002, 1160765003, 1160765004

Analysis Date: 02/23/2016 16:34
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	85.8	86.7	%	1.00	(< 15)

Batch Information

Analytical Batch: SPT9839
Analytical Method: SM21 2540G
Instrument:
Analyst: K.W

Print Date: 03/04/2016 10:25:24AM

Method Blank

Blank ID: MB for HBN 1729574 [VXX/28534]
Blank Lab ID: 1314067

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765009

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	12.5U	25.0	7.80	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	5.00U	10.0	3.10	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	125U	250	78.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	12.5U	25.0	7.80	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg
Chloroform	12.5U	25.0	7.80	ug/Kg

Method Blank

Blank ID: MB for HBN 1729574 [VXX/28534]
Blank Lab ID: 1314067

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765009

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	12.5U	25.0	7.80	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	25.0U	50.0	15.0	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	25.0U	50.0	15.0	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	12.5U	25.0	7.80	ug/Kg
Trichloroethene	6.25U	12.5	3.90	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	111	71-136		%
4-Bromofluorobenzene (surr)	95.1	55-151		%
Toluene-d8 (surr)	105	85-116		%

Method Blank

Blank ID: MB for HBN 1729574 [VXX/28534]
Blank Lab ID: 1314067

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765009

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS15599
Analytical Method: SW8260B
Instrument: Agilent 7890-75MS
Analyst: KAS
Analytical Date/Time: 2/23/2016 10:05:00AM

Prep Batch: VXX28534
Prep Method: SW5035A
Prep Date/Time: 2/23/2016 8:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX28534]
Blank Spike Lab ID: 1314068
Date Analyzed: 02/23/2016 10:56

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765009

Results by **SW8260B**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	724	97	(78-125)
1,1,1-Trichloroethane	750	740	99	(73-130)
1,1,2,2-Tetrachloroethane	750	692	92	(70-124)
1,1,2-Trichloroethane	750	736	98	(78-121)
1,1-Dichloroethane	750	751	100	(76-125)
1,1-Dichloroethene	750	735	98	(70-131)
1,1-Dichloropropene	750	740	99	(76-125)
1,2,3-Trichlorobenzene	750	616	82	(66-130)
1,2,3-Trichloropropane	750	701	94	(73-125)
1,2,4-Trichlorobenzene	750	676	90	(67-129)
1,2,4-Trimethylbenzene	750	751	100	(75-123)
1,2-Dibromo-3-chloropropane	750	628	84	(61-132)
1,2-Dibromoethane	750	740	99	(78-122)
1,2-Dichlorobenzene	750	714	95	(78-121)
1,2-Dichloroethane	750	836	111	(73-128)
1,2-Dichloropropane	750	795	106	(76-123)
1,3,5-Trimethylbenzene	750	768	102	(73-124)
1,3-Dichlorobenzene	750	718	96	(77-121)
1,3-Dichloropropane	750	758	101	(77-121)
1,4-Dichlorobenzene	750	729	97	(75-120)
2,2-Dichloropropane	750	777	104	(67-133)
2-Butanone (MEK)	2250	2150	96	(51-148)
2-Chlorotoluene	750	768	102	(75-122)
2-Hexanone	2250	2210	98	(53-145)
4-Chlorotoluene	750	752	100	(72-124)
4-Isopropyltoluene	750	794	106	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2130	95	(65-135)
Benzene	750	728	97	(77-121)
Bromobenzene	750	753	100	(78-121)
Bromochloromethane	750	681	91	(78-125)
Bromodichloromethane	750	790	105	(75-127)
Bromoform	750	703	94	(67-132)
Bromomethane	750	885	118	(53-143)
Carbon disulfide	1130	1170	104	(63-132)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX28534]
Blank Spike Lab ID: 1314068
Date Analyzed: 02/23/2016 10:56

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765009

Results by **SW8260B**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)		CL
Carbon tetrachloride	750	692	92		(70-135)
Chlorobenzene	750	720	96		(79-120)
Chloroethane	750	1130	151	*	(59-139)
Chloroform	750	719	96		(78-123)
Chloromethane	750	748	100		(50-136)
cis-1,2-Dichloroethene	750	712	95		(77-123)
cis-1,3-Dichloropropene	750	776	103		(74-126)
Dibromochloromethane	750	721	96		(74-126)
Dibromomethane	750	749	100		(78-125)
Dichlorodifluoromethane	750	764	102		(29-149)
Ethylbenzene	750	741	99		(76-122)
Freon-113	1130	1160	103		(66-136)
Hexachlorobutadiene	750	832	111		(61-135)
Isopropylbenzene (Cumene)	750	782	104		(68-134)
Methylene chloride	750	671	90		(70-128)
Methyl-t-butyl ether	1130	1210	107		(73-125)
Naphthalene	750	604	81		(62-129)
n-Butylbenzene	750	820	109		(70-128)
n-Propylbenzene	750	808	108		(73-125)
o-Xylene	750	723	96		(77-123)
P & M -Xylene	1500	1460	97		(77-124)
sec-Butylbenzene	750	805	107		(73-126)
Styrene	750	730	97		(76-124)
tert-Butylbenzene	750	796	106		(73-125)
Tetrachloroethene	750	770	103		(73-128)
Toluene	750	747	100		(77-121)
trans-1,2-Dichloroethene	750	707	94		(74-125)
trans-1,3-Dichloropropene	750	769	102		(71-130)
Trichloroethene	750	800	107		(77-123)
Trichlorofluoromethane	750	1180	157	*	(62-140)
Vinyl acetate	750	860	115		(50-151)
Vinyl chloride	750	754	101		(56-135)
Xylenes (total)	2250	2180	97		(78-124)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX28534]
Blank Spike Lab ID: 1314068
Date Analyzed: 02/23/2016 10:56

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765009

Results by **SW8260B**

	Blank Spike (%)			
Parameter	Spike	Result	Rec (%)	CL
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	111	111	(71-136)
4-Bromofluorobenzene (surr)	750	96.5	97	(55-151)
Toluene-d8 (surr)	750	104	104	(85-116)

Batch Information

Analytical Batch: **VMS15599**
Analytical Method: **SW8260B**
Instrument: **Agilent 7890-75MS**
Analyst: **KAS**

Prep Batch: **VXX28534**
Prep Method: **SW5035A**
Prep Date/Time: **02/23/2016 08:00**
Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1314069 MS
MSD Sample ID: 1314070 MSD

Analysis Date: 02/23/2016 15:34
Analysis Date: 02/23/2016 11:57
Analysis Date: 02/23/2016 12:12
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765009

Results by **SW8260B**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	29.4U	767	748	97	767	755	98	78-125	0.92	(< 20)
1,1,1-Trichloroethane	29.4U	767	737	96	767	757	99	73-130	2.60	(< 20)
1,1,2,2-Tetrachloroethane	14.7U	767	700	91	767	707	92	70-124	1.00	(< 20)
1,1,2-Trichloroethane	11.8U	767	758	99	767	757	99	78-121	0.17	(< 20)
1,1-Dichloroethane	29.4U	767	736	96	767	762	99	76-125	3.50	(< 20)
1,1-Dichloroethene	29.4U	767	758	99	767	776	101	70-131	2.40	(< 20)
1,1-Dichloropropene	29.4U	767	745	97	767	764	100	76-125	2.50	(< 20)
1,2,3-Trichlorobenzene	58.9U	767	807	105	767	1076	140 *	66-130	28.60 *	(< 20)
1,2,3-Trichloropropane	29.4U	767	693	90	767	714	93	73-125	3.00	(< 20)
1,2,4-Trichlorobenzene	29.4U	767	814	106	767	982	128	67-129	18.70	(< 20)
1,2,4-Trimethylbenzene	58.9U	767	765	100	767	761	99	75-123	0.60	(< 20)
1,2-Dibromo-3-chloropropane	118U	767	695	91	767	779	102	61-132	11.50	(< 20)
1,2-Dibromoethane	11.8U	767	757	99	767	760	99	78-122	0.34	(< 20)
1,2-Dichlorobenzene	29.4U	767	733	96	767	734	96	78-121	0.17	(< 20)
1,2-Dichloroethane	11.8U	767	839	109	767	851	111	73-128	1.60	(< 20)
1,2-Dichloropropane	11.8U	767	799	104	767	817	106	76-123	2.20	(< 20)
1,3,5-Trimethylbenzene	29.4U	767	772	101	767	770	100	73-124	0.27	(< 20)
1,3-Dichlorobenzene	29.4U	767	728	95	767	731	95	77-121	0.39	(< 20)
1,3-Dichloropropane	11.8U	767	781	102	767	783	102	77-121	0.20	(< 20)
1,4-Dichlorobenzene	29.4U	767	750	98	767	746	97	75-120	0.68	(< 20)
2,2-Dichloropropane	29.4U	767	785	102	767	801	104	67-133	2.00	(< 20)
2-Butanone (MEK)	294U	2304	2347	102	2304	2691	117	51-148	14.00	(< 20)
2-Chlorotoluene	29.4U	767	758	99	767	766	100	75-122	1.10	(< 20)
2-Hexanone	294U	2304	2357	102	2304	2476	107	53-145	4.90	(< 20)
4-Chlorotoluene	29.4U	767	761	99	767	761	99	72-124	0.03	(< 20)
4-Isopropyltoluene	29.4U	767	817	106	767	794	103	73-127	2.80	(< 20)
4-Methyl-2-pentanone (MIBK)	294U	2304	2153	93	2304	2217	96	65-135	3.30	(< 20)
Benzene	14.7U	767	735	96	767	737	96	77-121	0.42	(< 20)
Bromobenzene	29.4U	767	740	96	767	751	98	78-121	1.70	(< 20)
Bromochloromethane	29.4U	767	675	88	767	693	90	78-125	2.60	(< 20)
Bromodichloromethane	29.4U	767	788	103	767	802	104	75-127	1.80	(< 20)
Bromoform	29.4U	767	729	95	767	719	94	67-132	1.40	(< 20)
Bromomethane	235U	767	970	126	767	939	122	53-143	3.30	(< 20)
Carbon disulfide	118U	1152	1206	105	1152	1227	107	63-132	2.20	(< 20)
Carbon tetrachloride	14.7U	767	691	90	767	709	92	70-135	2.60	(< 20)
Chlorobenzene	29.4U	767	718	94	767	744	97	79-120	3.50	(< 20)
Chloroethane	235U	767	1184	154 *	767	1076	141 *	59-139	8.80	(< 20)

Print Date: 03/04/2016 10:25:29AM

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1314069 MS
MSD Sample ID: 1314070 MSD

Analysis Date: 02/23/2016 15:34
Analysis Date: 02/23/2016 11:57
Analysis Date: 02/23/2016 12:12
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765009

Results by **SW8260B**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Chloroform	29.4U	767	710	93		767	734	96		78-123	3.30	(< 20)
Chloromethane	29.4U	767	766	100		767	742	97		50-136	3.30	(< 20)
cis-1,2-Dichloroethene	29.4U	767	705	92		767	731	95		77-123	3.70	(< 20)
cis-1,3-Dichloropropene	29.4U	767	779	101		767	784	102		74-126	0.52	(< 20)
Dibromochloromethane	29.4U	767	741	96		767	743	97		74-126	0.35	(< 20)
Dibromomethane	29.4U	767	738	96		767	755	98		78-125	2.20	(< 20)
Dichlorodifluoromethane	58.9U	767	781	102		767	735	96		29-149	6.10	(< 20)
Ethylbenzene	29.4U	767	753	98		767	753	98		76-122	0.00	(< 20)
Freon-113	118U	1152	1227	107		1152	1249	108		66-136	1.10	(< 20)
Hexachlorobutadiene	58.9U	767	1076	141	*	767	1206	157	*	61-135	10.70	(< 20)
Isopropylbenzene (Cumene)	29.4U	767	791	103		767	800	104		68-134	1.00	(< 20)
Methylene chloride	118U	767	672	87		767	687	89		70-128	2.30	(< 20)
Methyl-t-butyl ether	118U	1152	1227	106		1152	1249	108		73-125	1.90	(< 20)
Naphthalene	58.9U	767	719	94		767	906	118		62-129	23.10	* (< 20)
n-Butylbenzene	29.4U	767	848	111		767	830	108		70-128	2.20	(< 20)
n-Propylbenzene	29.4U	767	789	103		767	797	104		73-125	0.94	(< 20)
o-Xylene	29.4U	767	732	95		767	746	97		77-123	2.00	(< 20)
P & M -Xylene	58.9U	1539	1485	97		1539	1507	98		77-124	1.40	(< 20)
sec-Butylbenzene	29.4U	767	820	107		767	787	102		73-126	4.20	(< 20)
Styrene	29.4U	767	749	98		767	747	97		76-124	0.27	(< 20)
tert-Butylbenzene	29.4U	767	794	103		767	786	102		73-125	1.10	(< 20)
Tetrachloroethene	14.7U	767	785	102		767	801	104		73-128	2.10	(< 20)
Toluene	29.4U	767	757	99		767	778	101		77-121	2.90	(< 20)
trans-1,2-Dichloroethene	29.4U	767	704	92		767	719	94		74-125	2.20	(< 20)
trans-1,3-Dichloropropene	29.4U	767	779	102		767	798	104		71-130	2.20	(< 20)
Trichloroethene	14.7U	767	790	103		767	811	106		77-123	2.60	(< 20)
Trichlorofluoromethane	58.9U	767	1173	153	*	767	1270	166	*	62-140	7.80	(< 20)
Vinyl acetate	118U	767	905	118		767	886	115		50-151	2.20	(< 20)
Vinyl chloride	11.8U	767	787	102		767	731	95		56-135	7.30	(< 20)
Xylenes (total)	88.3U	2304	2217	96		2304	2250	98		78-124	1.60	(< 20)
Surrogates												
1,2-Dichloroethane-D4 (surr)		767	856	111		767	869	113		71-136	1.50	
4-Bromofluorobenzene (surr)		2045	1668	82		2045	1701	83		55-151	1.60	
Toluene-d8 (surr)		767	802	104		767	820	107		85-116	2.20	

Print Date: 03/04/2016 10:25:29AM

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1314069 MS
MSD Sample ID: 1314070 MSD

QC for Samples: 1160765001, 1160765002, 1160765009

Analysis Date:
Analysis Date: 02/23/2016 11:57
Analysis Date: 02/23/2016 12:12
Matrix: Soil/Solid (dry weight)

Results by **SW8260B**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS15599
Analytical Method: SW8260B
Instrument: Agilent 7890-75MS
Analyst: KAS
Analytical Date/Time: 2/23/2016 11:57:00AM

Prep Batch: VXX28534
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 2/23/2016 8:00:00AM
Prep Initial Wt./Vol.: 52.56g
Prep Extract Vol: 25.00mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1729592 4{ VVX2/ 832]
Blank Lab ID: 1013237

Matrix: CoilXColid (dry wpight)

6 Q for CaS mpe:
115s758ss1, 115s758ss2, 115s758ss0, 115s758ss3

Rpeulte by **SW8260B**

ParaS ptpr	Rpeulte	LO6 XQL	DL	Unite
1,1,1,2-Tptrachloropthanp	12.8U	28.s	7./ s	ugXKg
1,1,1-Trichloropthanp	12.8U	28.s	7./ s	ugXKg
1,1,2,2-Tptrachloropthanp	5.28U	12.8	0.9s	ugXKg
1,1,2-Trichloropthanp	8.ssU	1s.s	0.1s	ugXKg
1,1-Dichloropthanp	12.8U	28.s	7./ s	ugXKg
1,1-Dichloropthpnp	12.8U	28.s	7./ s	ugXKg
1,1-Dichlorom romp np	12.8U	28.s	7./ s	ugXKg
1,2,0-Trichlorobpnzpnp	28.sU	8s.s	18.s	ugXKg
1,2,0-Trichlorom romanp	12.8U	28.s	7./ s	ugXKg
1,2,3-Trichlorobpnzpnp	12.8U	28.s	7./ s	ugXKg
1,2,3-TriS pthylbpnzpnp	28.sU	8s.s	18.s	ugXKg
1,2-DibroS o-0-chlorom romanp	8s.sU	1ss	01.s	ugXKg
1,2-DibroS opthanp	8.ssU	1s.s	0.1s	ugXKg
1,2-Dichlorobpnzpnp	12.8U	28.s	7./ s	ugXKg
1,2-Dichloropthanp	8.ssU	1s.s	0.1s	ugXKg
1,2-Dichlorom romanp	8.ssU	1s.s	0.1s	ugXKg
1,0,8-TriS pthylbpnzpnp	12.8U	28.s	7./ s	ugXKg
1,0-Dichlorobpnzpnp	12.8U	28.s	7./ s	ugXKg
1,0-Dichlorom romanp	8.ssU	1s.s	0.1s	ugXKg
1,3-Dichlorobpnzpnp	12.8U	28.s	7./ s	ugXKg
2,2-Dichlorom romanp	12.8U	28.s	7./ s	ugXKg
2-Butanonp (MEK)	128U	28s	7/ .s	ugXKg
2-Qhlorotolupnp	12.8U	28.s	7./ s	ugXKg
2-Hpxanonp	128U	28s	7/ .s	ugXKg
3-Qhlorotolupnp	12.8U	28.s	7./ s	ugXKg
3-leom romyltolupnp	12.8U	28.s	7./ s	ugXKg
3-Mpthyl-2-mpntanonp (MIBK)	128U	28s	7/ .s	ugXKg
Bpnzpnp	5.28U	12.8	0.9s	ugXKg
BroS obpnzpnp	12.8U	28.s	7./ s	ugXKg
BroS ochloroS pthanp	12.8U	28.s	7./ s	ugXKg
BroS odichloroS pthanp	12.8U	28.s	7./ s	ugXKg
BroS oforS	12.8U	28.s	7./ s	ugXKg
BroS oS pthanp	1ssU	2ss	52.s	ugXKg
Qarbon dieulfidp	8s.sU	1ss	01.s	ugXKg
Qarbon tptrachloridp	5.28U	12.8	0.9s	ugXKg
Qhlorobpnzpnp	12.8U	28.s	7./ s	ugXKg
Qhloropthanp	1ssU	2ss	52.s	ugXKg
QhloroforS	12.8U	28.s	7./ s	ugXKg

Method Blank

Blank ID: MB for HBN 1729592 4[VVX2/ 832]
Blank Lab ID: 1013237

Matrix: CoilXColid (dry wpight)

6 Q for CaS mpe:
115s758ss1, 115s758ss2, 115s758ss0, 115s758ss3

Rpeulte by **SW8260B**

ParaS ptpr	Rpeulte	LO6 XQL	DL	Unite
QhloroS pthanp	12.8U	28.s	7./ s	ugXKg
cie-1,2-Dichloropthpnp	12.8U	28.s	7./ s	ugXKg
cie-1,0-Dichloromrompnp	12.8U	28.s	7./ s	ugXKg
DibroS ochloroS pthanp	12.8U	28.s	7./ s	ugXKg
DibroS oS pthanp	12.8U	28.s	7./ s	ugXKg
DichlorodifluoroS pthanp	28.sU	8s.s	18.s	ugXKg
Ethylbpnzpnp	12.8U	28.s	7./ s	ugXKg
Frpon-110	8s.sU	1ss	01.s	ugXKg
Hpxachlorobutadipnp	28.sU	8s.s	18.s	ugXKg
Ieomromylbpnzpnp (QuS pnp)	12.8U	28.s	7./ s	ugXKg
Mpthylpnp chloridp	8s.sU	1ss	01.s	ugXKg
Mpthyl-t-butyl pthpr	8s.sU	1ss	01.s	ugXKg
Namnthalpnp	28.sU	8s.s	18.s	ugXKg
n-Butylbpnzpnp	12.8U	28.s	7./ s	ugXKg
n-Promylbpnzpnp	12.8U	28.s	7./ s	ugXKg
o-Vylpnp	12.8U	28.s	7./ s	ugXKg
P & M -Vylpnp	28.sU	8s.s	18.s	ugXKg
epc-Butylbpnzpnp	12.8U	28.s	7./ s	ugXKg
Ctyrpnp	12.8U	28.s	7./ s	ugXKg
tprt-Butylbpnzpnp	12.8U	28.s	7./ s	ugXKg
Tptrachloropthpnp	5.28U	12.8	0.9s	ugXKg
Tolupnp	12.8U	28.s	7./ s	ugXKg
trane-1,2-Dichloropthpnp	12.8U	28.s	7./ s	ugXKg
trane-1,0-Dichloromrompnp	12.8U	28.s	7./ s	ugXKg
Trichloropthpnp	5.28U	12.8	0.9s	ugXKg
TrichlorofluoroS pthanp	28.sU	8s.s	18.s	ugXKg
[inyl acptatp	8s.sU	1ss	01.s	ugXKg
[inyl chloridp	8.ssU	1s.s	0.1s	ugXKg
Vylpnpe (total)	07.8U	78.s	22./	ugXKg
Surrogates				
1,2-Dichloropthanp-D3 (eurr)	12s	71-105		%
3-BroS ofluorobpnzpnp (eurr)	95.8	88-181		%
Tolupnp-d/ (eurr)	1s5	/ 8-115		%

Method Blank

Blank ID: MB for HBN 1729592 4[VV2/ 832]
Blank Lab ID: 1013237

Matrix: CoilXColid (dry wpight)

6 Q for CaS mpe:
115s758ss1, 115s758ss2, 115s758ss0, 115s758ss3

Rpeulte by **SW8260B**

ParaS ptpr	Rpeulte	LO6 XQL	DL	Unite

Batch Information

Analytical Batch: [MC185s8
Analytical Mpthod: CW/ 25sB
InetruS pnt: Agilpnt 7/ 9s-78MC
Analyet: KAC
Analytical DatpXTiS p: 2X25X2s15 2:89:ssPM

PrpmBatch: [VV2/ 832
PrpmMpthod: CW8s08A
PrpmDatpXTiS p: 2X23X2s15 / :ss:ssAM
PrpmInitial Wt.X[ol.: 8s g
PrpmExtract [ol: 28 S L

Print Datp: s0Xs3X2s15 1s:28:01AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX285324
Blank Spike La] ID: 1b13238
Date Analyzed: 02/26/2016 16:2R

x atri(: Soil/Solid wdry g eih) tP

, C for Sac pleu: 1160765001911607650029116076500b91160765003

s euMtu] y **SW8260B**

Blank Spike wMh/QhP

marac eter	Spike	s euMt	s e%wK P	CL
1919192-Tetra%) loroet) ane	750	733	RR	w78-125 P
19191-Tri%) loroet) ane	750	757	101	w7b-1b0 P
1919292-Tetra%) loroet) ane	750	6R5	Rb	w70-123 P
19192-Tri%) loroet) ane	750	775	10b	w78-121 P
191-Di%) loroet) ane	750	7b7	R8	w76-125 P
191-Di%) loroet) ene	750	758	101	w70-1b1 P
191-Di%) loropropene	750	765	102	w76-125 P
1929b-Tri%) loro] enzene	750	7b0	R7	w66-1b0 P
1929b-Tri%) loropropane	750	71b	R5	w7b-125 P
1929B-Tri%) loro] enzene	750	732	RR	w67-12R P
1929B-Tric et) yl] enzene	750	753	100	w75-12b P
192-Di] roc o-b-%) loropropane	750	6R1	R2	w61-1b2 P
192-Di] roc oet) ane	750	77b	10b	w78-122 P
192-Di%) loro] enzene	750	726	R7	w78-121 P
192-Di%) loroet) ane	750	867	116	w7b-128 P
192-Di%) loropropane	750	817	10R	w76-12b P
19b95-Tric et) yl] enzene	750	761	102	w7b-123 P
19b-Di%) loro] enzene	750	723	R7	w77-121 P
19b-Di%) loropropane	750	7R5	106	w77-121 P
193-Di%) loro] enzene	750	7b6	R8	w75-120 P
292-Di%) loropropane	750	7R0	105	w67-1bb P
2-BManone wx EQP	2250	2380	110	w51-138 P
2-C) lorotolMene	750	736	RR	w75-122 P
2-He(anone	2250	2350	10R	w5b-135 P
3-C) lorotolMene	750	73R	100	w72-123 P
3-luopropyltolMene	750	7R6	106	w7b-127 P
3-x et) yl-2-pentanone wx IBQP	2250	21R0	R7	w65-1b5 P
Benzene	750	73R	100	w77-121 P
Broc o] enzene	750	7b8	R8	w78-121 P
Broc o%) loroc et) ane	750	682	R1	w78-125 P
Broc odi%) loroc et) ane	750	801	107	w75-127 P
Broc oforc	750	7bb	R8	w67-1b2 P
Broc oc et) ane	750	RbR	125	w5b-13b P
Car] on diuMfide	11b0	1200	106	w6b-1b2 P

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX285324
Blank Spike La] ID: 1b13238
Date Analyzed: 02/26/2016 16:2R

x atri(: Soil/Solid wdry g eih) tP

, C for Sac pleu: 1160765001911607650029116076500b91160765003

s euMtu] y **SW8260B**

Blank Spike wMh/QhP

marac eter	Spike	s euMt	s e%wK P		CL
Car] on tetra%) loride	750	716	R6		w70-1b5 P
C) loro] enzene	750	723	R7		w7R-120 P
C) loroet) ane	750	11R0	15R	*	w5R-1bR P
C) loroforc	750	721	R6		w78-12b P
C) loroc et) ane	750	72b	R6		w50-1b6 P
%u-192-Di%) loroet) ene	750	6RR	Rb		w77-12b P
%u-19b-Di%) loropropene	750	787	105		w73-126 P
Di] roc o%) loroc et) ane	750	750	100		w73-126 P
Di] roc oc et) ane	750	768	102		w78-125 P
Di%) lorodiflMoroc et) ane	750	75b	100		w2R-13R P
Et) yl] enzene	750	75b	100		w76-122 P
Freon-11b	11b0	1260	112		w66-1b6 P
He(a%) loro] Madiene	750	8bb	111		w61-1b5 P
Iuopropyl] enzene vCMc eneP	750	803	107		w68-1b3 P
x et) ylene %) loride	750	656	87		w70-128 P
x et) yl-t-] Myl et) er	11b0	1270	11b		w7b-125 P
Nap) t) alene	750	71b	R5		w62-12R P
n-BMyl] enzene	750	8b1	111		w70-128 P
n-mropyl] enzene	750	78R	105		w7b-125 P
o-Xylene	750	7bR	RR		w77-12b P
m & x -Xylene	1500	1520	101		w77-123 P
ue%BMyl] enzene	750	806	107		w7b-126 P
Styrene	750	751	100		w76-123 P
tert-BMyl] enzene	750	786	105		w7b-125 P
Tetra%) loroet) ene	750	7Rb	106		w7b-128 P
TolMene	750	773	10b		w77-121 P
tranu-192-Di%) loroet) ene	750	71b	R5		w73-125 P
tranu-19b-Di%) loropropene	750	7R6	106		w71-1b0 P
Tri%) loroet) ene	750	807	108		w77-12b P
Tri%) loroflMoroc et) ane	750	1200	160	*	w62-130 P
Vinyl a%etate	750	R0R	121		w50-151 P
Vinyl %) loride	750	76b	102		w56-1b5 P
Xyleneu wotalP	2250	2250	100		w78-123 P

mrint Date: 0b/03/2016 10:25:bbAx

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [VXX285324
Blank Spike La] ID: 1b13238
Date Analyzed: 02/26/2016 16:2R

x atri(: Soil/Solid wdry g eih) tP

, C for Sac pleu: 1160765001911607650029116076500b91160765003

s euMtu] y **SW8260B**

marac eter	Spike	s euMt	Blank Spike wK P s e%wK P	CL
Surrogates				
192-Di%) loroet) ane-D3 wuMrrP	750	11b	11b	w71-1b6 P
3-Broc ofIMbro] enzene wuMrrP	750	Rb.8	R3	w55-151 P
TolMene-d8 wuMrrP	750	106	106	w85-116 P

Batch Information

Analyti%al Bat%) : **VMS15605**
Analyti%al x et) od: **SW8260B**
InutrMc ent: **9 gilent A870-A5MS**
Analyut: **K9 S**

mrep Bat%) : **VXX28532**
mrep x et) od: **SW50459**
mrep Date/Tic e: **02/23/2016 08:00**
Spike Init Wt./Vol.: 750 Mh/Qh E(tra% Vol: 25 c L
DMpe Init Wt./Vol.: E(tra% Vol:

Matrix Spike Summary

Original Sample ID: 1314282
MS Sample ID: 1314249 MS
MSD Sample ID: 1314250 MSD

Analysis Date: 02/26/2016 21:04
Analysis Date: 02/26/2016 18:09
Analysis Date: 02/26/2016 18:25
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8260B**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	17.9U	1070	1080	101		1070	1080	101		0.03	(< 20)
1,1,1-Trichloroethane	17.9U	1070	1080	101		1070	1110	104		2.50	(< 20)
1,1,2,2-Tetrachloroethane	8.90U	1070	962	90		1070	1000	94		4.00	(< 20)
1,1,2-Trichloroethane	7.15U	1070	1120	105		1070	1120	105		0.29	(< 20)
1,1-Dichloroethane	17.9U	1070	1070	100		1070	1080	101		0.89	(< 20)
1,1-Dichloroethene	17.9U	1070	1140	107		1070	1170	109		2.30	(< 20)
1,1-Dichloropropene	17.9U	1070	1100	103		1070	1130	105		2.00	(< 20)
1,2,3-Trichlorobenzene	35.6U	1070	1040	97		1070	1440	135	*	32.30	* (< 20)
1,2,3-Trichloropropane	17.9U	1070	995	93		1070	1040	97		4.20	(< 20)
1,2,4-Trichlorobenzene	17.9U	1070	1070	100		1070	1300	122		19.30	(< 20)
1,2,4-Trimethylbenzene	35.6U	1070	1030	97		1070	1040	97		0.34	(< 20)
1,2-Dibromo-3-chloropropane	71.5U	1070	973	91		1070	1210	113		21.60	* (< 20)
1,2-Dibromoethane	7.15U	1070	1110	104		1070	1120	105		1.10	(< 20)
1,2-Dichlorobenzene	17.9U	1070	988	92		1070	1020	95		3.00	(< 20)
1,2-Dichloroethane	7.15U	1070	1220	114		1070	1230	115		0.93	(< 20)
1,2-Dichloropropane	7.15U	1070	1160	109		1070	1180	110		1.30	(< 20)
1,3,5-Trimethylbenzene	17.9U	1070	1030	97		1070	1040	97		0.65	(< 20)
1,3-Dichlorobenzene	17.9U	1070	998	93		1070	1010	94		1.00	(< 20)
1,3-Dichloropropane	7.15U	1070	1140	107		1070	1160	108		0.96	(< 20)
1,4-Dichlorobenzene	17.9U	1070	1010	94		1070	1030	96		2.10	(< 20)
2,2-Dichloropropane	17.9U	1070	1140	106		1070	1160	108		1.60	(< 20)
2-Butanone (MEK)	179U	3210	3650	114		3210	4420	138		19.20	(< 20)
2-Chlorotoluene	17.9U	1070	1020	96		1070	1030	96		0.45	(< 20)
2-Hexanone	202J	3210	3770	111		3210	4070	121		7.60	(< 20)
4-Chlorotoluene	17.9U	1070	1020	96		1070	1040	97		1.40	(< 20)
4-Isopropyltoluene	13.9J	1070	1080	99		1070	1050	97		2.10	(< 20)
4-Methyl-2-pentanone (MIBK)	179U	3210	3180	99		3210	3360	105		5.60	(< 20)
Benzene	8.90U	1070	1070	100		1070	1100	103		3.10	(< 20)
Bromobenzene	17.9U	1070	1010	94		1070	1030	96		1.80	(< 20)
Bromochloromethane	17.9U	1070	979	92		1070	978	91		0.07	(< 20)
Bromodichloromethane	17.9U	1070	1140	107		1070	1140	107		0.12	(< 20)
Bromoform	17.9U	1070	1050	98		1070	1070	100		1.80	(< 20)
Bromomethane	143U	1070	1430	133		1070	1210	113		16.30	(< 20)
Carbon disulfide	71.5U	1600	1770	110		1600	1830	114		3.00	(< 20)
Carbon tetrachloride	8.90U	1070	1020	95		1070	1030	97		1.40	(< 20)
Chlorobenzene	17.9U	1070	1050	98		1070	1040	97		0.34	(< 20)
Chloroethane	143U	1070	1840	172	*	1070	1500	140	*	20.40	* (< 20)

Print Date: 03/04/2016 10:25:34AM

Matrix Spike Summary

Original Sample ID: 1314282
MS Sample ID: 1314249 MS
MSD Sample ID: 1314250 MSD

Analysis Date: 02/26/2016 21:04
Analysis Date: 02/26/2016 18:09
Analysis Date: 02/26/2016 18:25
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8260B**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloroform	17.9U	1070	1020	96	1070	1040	97	78-123	1.50	(< 20)
Chloromethane	17.9U	1070	1110	104	1070	1010	95	50-136	9.40	(< 20)
cis-1,2-Dichloroethene	17.9U	1070	997	93	1070	1020	96	77-123	2.70	(< 20)
cis-1,3-Dichloropropene	17.9U	1070	1120	104	1070	1130	105	74-126	0.99	(< 20)
Dibromochloromethane	17.9U	1070	1070	100	1070	1080	101	74-126	1.00	(< 20)
Dibromomethane	17.9U	1070	1070	100	1070	1060	99	78-125	0.80	(< 20)
Dichlorodifluoromethane	35.6U	1070	1160	108	1070	1050	98	29-149	9.70	(< 20)
Ethylbenzene	17.9U	1070	1060	99	1070	1080	101	76-122	2.10	(< 20)
Freon-113	71.5U	1600	1790	112	1600	1920	119	66-136	6.60	(< 20)
Hexachlorobutadiene	35.6U	1070	1290	121	1070	1390	130	61-135	7.60	(< 20)
Isopropylbenzene (Cumene)	17.9U	1070	1120	105	1070	1120	105	68-134	0.06	(< 20)
Methylene chloride	71.5U	1070	960	90	1070	952	89	70-128	0.86	(< 20)
Methyl-t-butyl ether	71.5U	1600	1780	111	1600	1860	116	73-125	4.40	(< 20)
Naphthalene	35.6U	1070	992	93	1070	1360	127	62-129	31.40 *	(< 20)
n-Butylbenzene	17.9U	1070	1110	104	1070	1090	102	70-128	2.30	(< 20)
n-Propylbenzene	17.9U	1070	1070	100	1070	1060	99	73-125	0.91	(< 20)
o-Xylene	17.9U	1070	1040	98	1070	1050	99	77-123	0.99	(< 20)
P & M -Xylene	35.6U	2140	2160	101	2140	2160	101	77-124	0.10	(< 20)
sec-Butylbenzene	17.9U	1070	1080	101	1070	1040	98	73-126	3.10	(< 20)
Styrene	17.9U	1070	1050	99	1070	1060	99	76-124	0.24	(< 20)
tert-Butylbenzene	17.9U	1070	1050	99	1070	1040	98	73-125	0.95	(< 20)
Tetrachloroethene	8.90U	1070	1120	105	1070	1160	108	73-128	2.80	(< 20)
Toluene	628	1070	1670	97	1070	1700	100	77-121	2.00	(< 20)
trans-1,2-Dichloroethene	17.9U	1070	1030	97	1070	1040	98	74-125	0.93	(< 20)
trans-1,3-Dichloropropene	17.9U	1070	1150	108	1070	1160	108	71-130	0.65	(< 20)
Trichloroethene	8.90U	1070	1150	107	1070	1180	110	77-123	2.40	(< 20)
Trichlorofluoromethane	35.6U	1070	1670	156 *	1070	1910	178 *	62-140	13.30	(< 20)
Vinyl acetate	71.5U	1070	1300	121	1070	1320	124	50-151	2.20	(< 20)
Vinyl chloride	7.15U	1070	1150	108	1070	1060	99	56-135	8.90	(< 20)
Xylenes (total)	53.5U	3210	3210	100	3210	3210	100	78-124	0.26	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		1070	1200	112	1070	1210	113	71-136	0.83	
4-Bromofluorobenzene (surr)		2850	1870	66	2850	1930	68	55-151	2.90	
Toluene-d8 (surr)		1070	1130	106	1070	1160	108	85-116	2.50	

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1314282
MS Sample ID: 1314249 MS
MSD Sample ID: 1314250 MSD

Analysis Date:
Analysis Date: 02/26/2016 18:09
Analysis Date: 02/26/2016 18:25
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8260B**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS15605
Analytical Method: SW8260B
Instrument: Agilent 7890-75MS
Analyst: KAS
Analytical Date/Time: 2/26/2016 6:09:00PM

Prep Batch: VXX28542
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 2/24/2016 8:00:00AM
Prep Initial Wt./Vol.: 35.06g
Prep Extract Vol: 25.00mL

Print Date: 03/04/2016 10:25:34AM

Method Blank

Blank ID: MB for HBN 1729752 [VXX/28550]
Blank Lab ID: 1314514

Matrix: Soil/Solid (dry weight)

QC for Samples:
1160765001, 1160765002, 1160765004

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Naphthalene	25.0U	50.0	15.0	ug/Kg
Sf uor ateg				
1,2-Dichloroethane-D4 (surr)	129	71-136		%
4-Bromofluorobenzene (surr)	92.7	55-151		%
Toluene-d8 (surr)	109	85-116		%

Batsh ɑlɔumation

Analytical Batch: VMS15608
Analytical Method: SW8260B
Instrument: Agilent 7890-75MS
Analyst: KAS
Analytical Date/Time: 3/1/2016 4:02:00PM

Prep Batch: VXX28550
Prep Method: SW5035A
Prep Date/Time: 3/1/2016 8:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 I 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [MXX295504
Blank Spike La] ID: 1b13515
Date Analyzed: 0b/01/2016 16:30

x atri(: Soil/Solid wdry g eih) tP

, C for Sac ples: 116076500181160765002811607650O3

Results] y **SW8260B**

Blank Spike wuh/QhP

marac eter	Spike	Result	Re%wK P	CL
Nap) t) alene	750	635	96	w62-12. P
Surrogates				
182-Di%) loroet) ane-D3 wsurrP	750	119	119	w71-1b6 P
3-Broc ofluoro] enzene wsurrP	750	99	99	w55-151 P
Toluene-d9 wsurrP	750	106	106	w95-116 P

Batch Information

Analyti%al Bat%) : **VMS15608**
Analyti%al x et) od: **SW8260B**
Instruc ent: **Agilent 7890-75MS**
Analyst: **KAS**

mrep Bat%) : **VXX28550**
mrep x et) od: **SW5035A**
mrep Date/Tic e: **03/01/2016 08:00**
Spike Init WtVMolV 750 uh/Qh E(tra% Mol: 25 c L
Dupe Init WtVMolV E(tra% Mol:

Matrix Spike Summary

Original Sample ID: 1314523
MS Sample ID: 1314516 MS
MSD Sample ID: 1314517 MSD

Analysis Date: 03/01/2016 18:47
Analysis Date: 03/01/2016 17:28
Analysis Date: 03/01/2016 17:44
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765004

Results by **SW8260B**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Naphthalene	50.6J	1120	1220	104	1120	1430	123	62-129	16.30	(< 20)
Surrf oateg										
1,2-Dichloroethane-D4 (surr)		1120	1370	122	1120	1390	124	71-136	2.00	
4-Bromofluorobenzene (surr)		3000	2390	80	3000	2490	83	55-151	3.80	
Toluene-d8 (surr)		1120	1210	108	1120	1230	110	85-116	1.70	

Batsc H rf rmatif l

Analytical Batch: VMS15608
Analytical Method: SW8260B
Instrument: Agilent 7890-75MS
Analyst: KAS
Analytical Date/Time: 3/1/2016 5:28:00PM

Prep Batch: VXX28550
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 3/1/2016 8:00:00AM
Prep Initial Wt./Vol.: 33.37g
Prep Extract Vol: 25.00mL

Print Date: 03/04/2016 10:25:38AM

Method Blank

Blank ID: MB for HBN 1729547 [VVVX5/ 95/ 8
Blank 3a] ID: 15157L2

Masr,t : 6o,lX6ol,i xi rd (S,ywsg

b 0 for 6aQCtSm
114p74Lpp1e114p74Lpp2e114p74Lpp5e114p74Lpp/

h Sm) lsm] d **SW8270D**

UaraQ SsSr	h Sm) lsm	3u b X0 3	D3	Rn,sm
1e2e/ OPr,- wloro] SnTSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
1e2OD,- wloro] SnTSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
1e5OD,- wloro] SnTSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
1e/ OD,- wloro] SnTSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
10D wloronaOwswalSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
10MSswdlnaOwswalSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
2e/ eLOPr,- wloroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
2e/ e4OPr,- wloroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
2e/ OD,- wloroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
2e/ OD,QSswdlOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
2e/ OD,n,sroOwSnol	1dLpR	5φpp	pc9/ p	QyX y
2e/ OD,n,srosol) SnS	pd12LR	pd2Lp	pφ7Kp	QyX y
2e4OD,- wloroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
2e4OD,n,srosol) SnS	pd12LR	pd2Lp	pφ7Kp	QyX y
20D wloronaOwswalSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
20D wloroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
20MSswdlO/e4O,n,sroOwSnol	1φppR	2φpp	pc42p	QyX y
20MSswdlnaOwswalSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
20MSswdlOwSnol xoO rSnolg	pd12LR	pd2Lp	pφ7Kp	QyX y
20N,sroan,l,nS	pd12LR	pd2Lp	pφ7Kp	QyX y
20N,sroOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
5z / OMSswdlOwSnol xCz QO rSnolg	pdLppR	1φpp	pc51p	QyX y
5e5OD,- wloro] SnT,i ,nS	pd12LR	pd2Lp	pφ7Kp	QyX y
50N,sroan,l,nS	pd2LpR	pdLpp	pd1Lp	QyX y
/ OBroQoOwSndlOOwSndlSswSr	pd12LR	pd2Lp	pφ7Kp	QyX y
/ O wloroO5OQSswdlOwSnol	pd12LR	pd2Lp	pφ7Kp	QyX y
/ O wloroan,l,nS	pd2LpR	pdLpp	pd1Lp	QyX y
/ O wloroOwSndlOOwSndlSswSr	pd12LR	pd2Lp	pφ7Kp	QyX y
/ ON,sroan,l,nS	1dLpR	5φpp	pc9/ p	QyX y
/ ON,sroOwSnol	pdLppR	1φpp	pc51p	QyX y
E- SnaOwswSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
E- SnaOwswdlSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
En,l,nS	1φppR	2φpp	pc42p	QyX y
Enswra- SnS	pd12LR	pd2Lp	pφ7Kp	QyX y
ETo] SnTSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
BSnToxagEnswra- SnS	pd12LR	pd2Lp	pφ7Kp	QyX y
BSnTo[a8CdrSnS	pd12LR	pd2Lp	pφ7Kp	QyX y
BSnTo[] 8Al) oranswSnS	pd12LR	pd2Lp	pφ7Kp	QyX y

Method Blank

Blank ID: MB for HBN 1729547 [VVVX6/ 95/ 8
Blank 3a] ID: 15157L2

Masr,t : 6o,lX6ol,i xi rd (S,ywsg

b 0 for 6aQCiSm
114p74Lpp1e114p74Lpp2e114p74Lpp5e114p74Lpp/

h Sm) lsm] d **SW8270D**

UaraQ SsSr	h Sm) lsm	3u b X0 3	D3	Rn,sm
BSnTo[yewe,8CSrdlSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
BSnTo[k8fl) oranswSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
BSnTo,- a-,i	pd7LpR	1dLp	pd 7p	QyX y
BSnTdl al-owol	pd12LR	pd2Lp	pdp7Kp	QyX y
B,m2- wloro1QSswdlSswdlgFswSr	pd12LR	pd2Lp	pdp7Kp	QyX y
B,m2C0 wloroSswot dgQSswanS	pd12LR	pd2Lp	pdp7Kp	QyX y
B,m2C0 wloroSswdlgSswSr	pd12LR	pd2Lp	pdp7Kp	QyX y
] ,m2CFswdlwSt dlgOwswalasS	pd12LR	pd2Lp	pdp7Kp	QyX y
B) sdl] SnTdlOwswalasS	pd12LR	pd2Lp	pdp7Kp	QyX y
0 ar] aTolS	pd12LR	pd2Lp	pdp7Kp	QyX y
0 wrdmSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
D,] SnTo[aewBanswra- SnS	pd12LR	pd2Lp	pdp7Kp	QyX y
D,] SnTof) ran	pd12LR	pd2Lp	pdp7Kp	QyX y
D,SswdlOwswalasS	pd12LR	pd2Lp	pdp7Kp	QyX y
D,QSswdlOwswalasS	pd12LR	pd2Lp	pdp7Kp	QyX y
D,OrQ) sdlOwswalasS	pd12LR	pd2Lp	pdp7Kp	QyX y
i ,OrQi - sdlOwswalasS	pd2LpR	pdLpp	pd1Lp	QyX y
Al) oranswSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
Al) orSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
HSt a- wloro] SnTSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
HSt a- wloro]) sai ,SnS	pd12LR	pd2Lp	pdp7Kp	QyX y
HSt a- wloro- d- loCSnsai ,SnS	pd5LpR	pd7pp	pd2pp	QyX y
HSt a- wloroSswanS	pd12LR	pd2Lp	pdp7Kp	QyX y
Ini Sno[1e2e5Oei 8CdrSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
ImoOworonS	pd12LR	pd2Lp	pdp7Kp	QyX y
NaOwswalSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
N,sro] SnTSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
NON,sromoi ,QSswdlaQ,nS	pd12LR	pd2Lp	pdp7Kp	QyX y
NON,sromoO ,OrODroCdlaQ,nS	pd12LR	pd2Lp	pdp7Kp	QyX y
NON,sromoi ,OwSndlaQ,nS	pd12LR	pd2Lp	pdp7Kp	QyX y
USnsa- wloroOwSnol	1dppR	2dpp	pd42p	QyX y
UwSnanswrSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
UwSnol	pd12LR	pd2Lp	pdp7Kp	QyX y
UdrSnS	pd12LR	pd2Lp	pdp7Kp	QyX y
Surrogates				
2e e4OPr,] roQoOwSnol xm) rrg	9/ d1	5LO12L		&
2OAl) oro] ,OwSndl xm) rrg	7Kd7	/ / O1 1L		&
2OAl) oroOwSnol xm) rrg	4LdK	5LO1 1L		&

Ur,nsDasS: p5X0/ X2p14 1p:2L:59EM

Method Blank

Blank ID: MB for HBN 1729547 [VVVX6/ 95/ 8
Blank 3a] ID: 15157L2

Masr,t : 6o,lX6ol,i xi rd (S,ywsg

b 0 for 6aQCtSm
114p74Lpp1e114p74Lpp2e114p74Lpp5e114p74Lpp/

h Sm) lsm] d **SW8270D**

UaraQSsSr	h Sm) lsm	3u b X03	D3	Rn,sm
N,sro] SnTSnS0L xm) rrg	71c2	57C122		&
UwSnolC14 xm) rrg	71c/	55C122		&
PSrOwSndlC11/ xm) rrg	1p1	L/ C127		&

Batch Information

Enalds,-al Bas-w: VM6919L
Enalds,-al MSswoi : 6WK27pD
Innsr) QSns: HU4K9pXL975 66E
Enaldms D6H
Enalds,-al DasSXP,QS: 2X2/ X2p14 L:/ / :ppUM

UrSC Bas-w: VVV5/ 95/
UrSC MSswoi : 6W5LLp0
UrSC DasSXP,QS: 2X2/ X2p14 K:57:pLEM
UrSC In,sal WsoX%olc 22d_y
UrSC Ft sra-s%ol: 1Q3

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [XXX34934]
Blank Spike Lab ID: 1313753
Date Analyzed: 02/24/2016 18:52

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,2,4-Trichlorobenzene	4.44	3.47	78	(34-118)
1,2-Dichlorobenzene	4.44	3.04	68	(33-117)
1,3-Dichlorobenzene	4.44	3.03	68	(30-115)
1,4-Dichlorobenzene	4.44	3.06	69	(31-115)
1-Chloronaphthalene	1.78	1.57	89	(48-115)
1-Methylnaphthalene	4.44	3.70	83	(40-119)
2,4,5-Trichlorophenol	4.44	4.48	101	(41-124)
2,4,6-Trichlorophenol	4.44	4.24	96	(39-126)
2,4-Dichlorophenol	4.44	3.70	83	(40-122)
2,4-Dimethylphenol	4.44	3.55	80	(30-127)
2,4-Dinitrophenol	8	8.70	109	(62-113)
2,4-Dinitrotoluene	4.44	4.37	98	(48-126)
2,6-Dichlorophenol	1.78	1.51	85	(41-117)
2,6-Dinitrotoluene	4.44	4.14	93	(46-124)
2-Chloronaphthalene	4.44	3.92	88	(41-114)
2-Chlorophenol	4.44	3.18	72	(34-121)
2-Methyl-4,6-dinitrophenol	8	8.90	111	(29-132)
2-Methylnaphthalene	4.44	3.58	81	(38-122)
2-Methylphenol (o-Cresol)	4.44	3.36	76	(32-122)
2-Nitroaniline	4.44	4.68	105	(44-127)
2-Nitrophenol	4.44	3.83	86	(36-123)
3&4-Methylphenol (p&m-Cresol)	6.22	5.43	87	(34-119)
3,3-Dichlorobenzidine	4.44	4.16	94	(22-121)
3-Nitroaniline	4.44	4.50	101	(33-119)
4-Bromophenyl-phenylether	4.44	4.46	100	(46-124)
4-Chloro-3-methylphenol	4.44	4.02	90	(45-122)
4-Chloroaniline	4.44	3.52	79	(17-106)
4-Chlorophenyl-phenylether	4.44	4.15	93	(45-121)
4-Nitroaniline	4.44	4.55	102	(77-120)
4-Nitrophenol	6.22	6.60	106	(30-132)
Acenaphthene	4.44	4.12	93	(40-123)
Acenaphthylene	4.44	4.08	92	(32-132)
Aniline	4.44	2.46	55	(24-89)
Anthracene	4.44	4.17	94	(47-123)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [XXX34934]
Blank Spike Lab ID: 1313753
Date Analyzed: 02/24/2016 18:52

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Azobenzene	4.44	4.53	102	(39-125)
Benzo(a)Anthracene	4.44	4.64	104	(49-126)
Benzo[a]pyrene	4.44	4.50	101	(45-129)
Benzo[b]Fluoranthene	4.44	4.96	112	(45-132)
Benzo[g,h,i]perylene	4.44	4.67	105	(43-134)
Benzo[k]fluoranthene	4.44	4.86	109	(47-132)
Benzoic acid	6.22	6.20	100	(53-124)
Benzyl alcohol	4.44	3.37	76	(29-122)
Bis(2chloro1methylethyl)Ether	4.44	3.28	74	(33-131)
Bis(2-Chloroethoxy)methane	4.44	3.76	85	(36-121)
Bis(2-Chloroethyl)ether	4.44	2.90	65	(31-120)
bis(2-Ethylhexyl)phthalate	4.44	4.96	112	(51-133)
Butylbenzylphthalate	4.44	4.91	110	(48-132)
Carbazole	4.44	4.65	105	(50-123)
Chrysene	4.44	4.91	110	(50-124)
Dibenzo[a,h]anthracene	4.44	4.76	107	(45-134)
Dibenzofuran	4.44	4.09	92	(44-120)
Diethylphthalate	4.44	4.25	96	(50-124)
Dimethylphthalate	4.44	4.21	95	(48-124)
Di-n-butylphthalate	4.44	4.46	100	(51-128)
di-n-Octylphthalate	4.44	4.96	112	(45-140)
Fluoranthene	4.44	4.36	98	(50-127)
Fluorene	4.44	4.18	94	(43-125)
Hexachlorobenzene	4.44	4.43	100	(45-122)
Hexachlorobutadiene	4.44	3.69	83	(32-123)
Hexachlorocyclopentadiene	4.44	3.80	85	(48-97)
Hexachloroethane	4.44	2.93	66	(28-117)
Indeno[1,2,3-c,d] pyrene	4.44	4.44	100	(45-133)
Isophorone	4.44	3.62	81	(30-122)
Naphthalene	4.44	3.45	78	(35-123)
Nitrobenzene	4.44	3.64	82	(34-122)
N-Nitrosodimethylamine	4.44	2.84	64	(23-120)
N-Nitroso-di-n-propylamine	4.44	3.60	81	(36-120)
N-Nitrosodiphenylamine	4.44	3.61	81	(38-127)

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1160765 [XXX34934]
Blank Spike Lab ID: 1313753
Date Analyzed: 02/24/2016 18:52

Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Pentachlorophenol	6.22	6.64	107	(25-133)
Phenanthrene	4.44	4.35	98	(50-121)
Phenol	4.44	3.30	74	(34-121)
Pyrene	4.44	4.55	102	(47-127)
Surrogates				
2,4,6-Tribromophenol (surr)	8.89	108	108	(35-125)
2-Fluorobiphenyl (surr)	4.44	85.5	86	(44-115)
2-Fluorophenol (surr)	8.89	66.5	67	(35-115)
Nitrobenzene-d5 (surr)	4.44	81.3	81	(37-122)
Phenol-d6 (surr)	8.89	74	74	(33-122)
Terphenyl-d14 (surr)	4.44	109	109	(54-127)

Batch Information

Analytical Batch: **XMS9195**
Analytical Method: **SW8270D**
Instrument: **HP 6890/5973 SSA**
Analyst: **DSH**

Prep Batch: **XXX34934**
Prep Method: **SW3550C**
Prep Date/Time: **02/24/2016 08:37**
Spike Init Wt./Vol.: 4.44 mg/Kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1313754 MS
MSD Sample ID: 1313755 MSD

Analysis Date: 02/26/2016 19:48
Analysis Date: 02/26/2016 20:05
Analysis Date: 02/26/2016 20:22
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

		Matrix Spike (mg/Kg)				Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
1,2,4-Trichlorobenzene	1.33U	4.69	4.43	95		4.71	4.27	91		34-118	3.90	(< 20)
1,2-Dichlorobenzene	1.33U	4.69	4.22	90		4.71	3.95	84		33-117	6.50	(< 20)
1,3-Dichlorobenzene	1.33U	4.69	4.07	87		4.71	3.80	81		30-115	6.70	(< 20)
1,4-Dichlorobenzene	1.33U	4.69	4.22	90		4.71	4.04	86		31-115	4.60	(< 20)
1-Chloronaphthalene	1.33U	1.87	2.09	111		1.88	1.50	79		48-115	33.10	* (< 20)
1-Methylnaphthalene	1.33U	4.69	4.59	98		4.71	4.43	94		40-119	3.50	(< 20)
2,4,5-Trichlorophenol	1.33U	4.69	4.11	88		4.71	4.07	86		41-124	1.10	(< 20)
2,4,6-Trichlorophenol	1.33U	4.69	4.66	99		4.71	4.28	91		39-126	8.40	(< 20)
2,4-Dichlorophenol	1.33U	4.69	4.25	91		4.71	4.07	86		40-122	4.30	(< 20)
2,4-Dimethylphenol	1.33U	4.69	4.13	88		4.71	3.61	77		30-127	13.70	(< 20)
2,4-Dinitrophenol	16.0U	8.44	8.00U	0	*	8.48	8.00U	0	*	62-113	0.00	(< 20)
2,4-Dinitrotoluene	1.33U	4.69	4.62	99		4.71	4.49	95		48-126	3.00	(< 20)
2,6-Dichlorophenol	1.33U	1.87	1.80	96		1.88	1.72	92		41-117	4.20	(< 20)
2,6-Dinitrotoluene	1.33U	4.69	4.89	104		4.71	4.56	97		46-124	6.80	(< 20)
2-Chloronaphthalene	1.33U	4.69	4.53	97		4.71	4.66	99		41-114	2.70	(< 20)
2-Chlorophenol	1.33U	4.69	4.14	88		4.71	3.93	83		34-121	5.40	(< 20)
2-Methyl-4,6-dinitrophenol	10.6U	8.44	5.91J	70		8.48	4.77J	56		29-132	21.40	* (< 20)
2-Methylnaphthalene	1.33U	4.69	4.37	93		4.71	4.24	90		38-122	3.10	(< 20)
2-Methylphenol (o-Cresol)	1.33U	4.69	4.21	90		4.71	3.88	82		32-122	8.10	(< 20)
2-Nitroaniline	1.33U	4.69	5.61	119		4.71	5.37	114		44-127	4.20	(< 20)
2-Nitrophenol	1.33U	4.69	5.25	112		4.71	4.88	103		36-123	7.50	(< 20)
3&4-Methylphenol (p&m-Cresol)	5.32U	6.57	6.66	102		6.60	6.25	95		34-119	6.40	(< 20)
3,3-Dichlorobenzidine	1.33U	4.69	4.18	89		4.71	4.19	89		22-121	0.24	(< 20)
3-Nitroaniline	2.66U	4.69	4.65	99		4.71	4.47	95		33-119	4.00	(< 20)
4-Bromophenyl-phenylether	1.33U	4.69	5.12	109		4.71	4.74	100		46-124	8.00	(< 20)
4-Chloro-3-methylphenol	1.33U	4.69	4.08	87		4.71	3.95	84		45-122	3.30	(< 20)
4-Chloroaniline	2.66U	4.69	4.09	87		4.71	4.00	85		17-106	2.00	(< 20)
4-Chlorophenyl-phenylether	1.33U	4.69	4.65	99		4.71	4.56	97		45-121	2.00	(< 20)
4-Nitroaniline	16.0U	4.69	8.00U	0	*	4.71	8.00U	0	*	77-120	0.00	(< 20)
4-Nitrophenol	5.32U	6.57	4.82J	73		6.60	4.79J	73		30-132	0.56	(< 20)
Acenaphthene	1.33U	4.69	4.92	105		4.71	4.69	100		40-123	4.80	(< 20)
Acenaphthylene	1.33U	4.69	4.87	104		4.71	4.68	99		32-132	3.70	(< 20)
Aniline	10.6U	4.69	3.27J	70		4.71	5.30U	0	*	24-89	0.00	(< 20)
Anthracene	1.33U	4.69	4.83	103		4.71	4.66	99		47-123	3.60	(< 20)
Azobenzene	1.33U	4.69	5.67	121		4.71	5.04	107		39-125	11.80	(< 20)
Benzo(a)Anthracene	1.33U	4.69	4.95	105		4.71	4.83	103		49-126	2.30	(< 20)
Benzo[a]pyrene	1.33U	4.69	4.85	103		4.71	4.57	97		45-129	6.00	(< 20)

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1313754 MS
MSD Sample ID: 1313755 MSD

Analysis Date: 02/26/2016 19:48
Analysis Date: 02/26/2016 20:05
Analysis Date: 02/26/2016 20:22
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Benzo[b]Fluoranthene	1.33U	4.69	4.91	105	4.71	4.70	100	45-132	4.20	(< 20)
Benzo[g,h,i]perylene	1.33U	4.69	5.13	109	4.71	5.05	107	43-134	1.70	(< 20)
Benzo[k]fluoranthene	1.33U	4.69	5.08	108	4.71	4.81	102	47-132	5.50	(< 20)
Benzoic acid	7.98U	6.57	3.99U	0 *	6.60	3.99U	0 *	53-124	0.00	(< 20)
Benzyl alcohol	1.33U	4.69	4.36	93	4.71	4.02	85	29-122	8.40	(< 20)
Bis(2chloro1methylethyl)Ether	1.33U	4.69	4.52	96	4.71	4.22	90	33-131	6.90	(< 20)
Bis(2-Chloroethoxy)methane	1.33U	4.69	4.91	105	4.71	4.78	101	36-121	2.70	(< 20)
Bis(2-Chloroethyl)ether	1.33U	4.69	3.97	85	4.71	3.79	80	31-120	4.80	(< 20)
bis(2-Ethylhexyl)phthalate	1.33U	4.69	5.60	119	4.71	5.80	123	51-133	3.50	(< 20)
Butylbenzylphthalate	1.33U	4.69	5.76	123	4.71	5.86	124	48-132	1.70	(< 20)
Carbazole	1.33U	4.69	5.13	109	4.71	5.20	110	50-123	1.30	(< 20)
Chrysene	1.33U	4.69	5.23	112	4.71	5.03	107	50-124	4.00	(< 20)
Dibenzo[a,h]anthracene	1.33U	4.69	4.92	105	4.71	5.01	106	45-134	1.70	(< 20)
Dibenzofuran	1.33U	4.69	4.75	101	4.71	4.57	97	44-120	3.50	(< 20)
Diethylphthalate	1.33U	4.69	5.19	111	4.71	5.19	110	50-124	0.10	(< 20)
Dimethylphthalate	1.33U	4.69	5.24	112	4.71	5.16	109	48-124	1.70	(< 20)
Di-n-butylphthalate	1.33U	4.69	5.33	114	4.71	5.45	116	51-128	2.20	(< 20)
di-n-Octylphthalate	2.66U	4.69	5.68	121	4.71	5.73	122	45-140	0.67	(< 20)
Fluoranthene	1.33U	4.69	4.25	91	4.71	4.57	97	50-127	7.30	(< 20)
Fluorene	1.33U	4.69	4.63	99	4.71	4.79	102	43-125	3.30	(< 20)
Hexachlorobenzene	1.33U	4.69	4.98	106	4.71	4.64	99	45-122	7.10	(< 20)
Hexachlorobutadiene	1.33U	4.69	4.81	103	4.71	4.48	95	32-123	7.10	(< 20)
Hexachlorocyclopentadiene	3.73U	4.69	3.09J	66	4.71	2.41J	51	48-97	24.40	* (< 20)
Hexachloroethane	1.33U	4.69	3.93	84	4.71	3.69	78	28-117	6.30	(< 20)
Indeno[1,2,3-c,d] pyrene	1.33U	4.69	4.69	100	4.71	4.70	100	45-133	0.26	(< 20)
Isophorone	1.33U	4.69	4.69	100	4.71	4.45	94	30-122	5.40	(< 20)
Naphthalene	1.33U	4.69	4.61	98	4.71	4.45	94	35-123	3.50	(< 20)
Nitrobenzene	1.33U	4.69	4.79	102	4.71	4.60	98	34-122	4.10	(< 20)
N-Nitrosodimethylamine	1.33U	4.69	3.91	83	4.71	3.69	78	23-120	5.80	(< 20)
N-Nitroso-di-n-propylamine	1.33U	4.69	4.80	102	4.71	4.36	93	36-120	9.60	(< 20)
N-Nitrosodiphenylamine	1.33U	4.69	4.57	98	4.71	4.11	87	38-127	10.60	(< 20)
Pentachlorophenol	10.6U	6.57	5.33J	81	6.60	5.19J	79	25-133	2.50	(< 20)
Phenanthrene	1.33U	4.69	5.02	107	4.71	4.87	103	50-121	3.10	(< 20)
Phenol	1.33U	4.69	4.21	90	4.71	3.96	84	34-121	5.90	(< 20)
Pyrene	1.33U	4.69	5.02	107	4.71	4.90	104	47-127	2.40	(< 20)
Surrogates										
2,4,6-Tribromophenol (surr)		9.38	9.61	103	9.43	8.97	95	35-125	7.00	

Print Date: 03/04/2016 10:25:41AM

Matrix Spike Summary

Original Sample ID: 1160731001
MS Sample ID: 1313754 MS
MSD Sample ID: 1313755 MSD

Analysis Date:
Analysis Date: 02/26/2016 20:05
Analysis Date: 02/26/2016 20:22
Matrix: Soil/Solid (dry weight)

QC for Samples: 1160765001, 1160765002, 1160765003, 1160765004

Results by **SW8270D**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
2-Fluorobiphenyl (surr)		4.69	4.83	103	4.71	4.60	98	44-115	5.00	
2-Fluorophenol (surr)		9.38	8.03	86	9.43	7.88	84	35-115	2.00	
Nitrobenzene-d5 (surr)		4.69	4.65	99	4.71	4.37	93	37-122	6.40	
Phenol-d6 (surr)		9.38	8.46	90	9.43	7.99	85	33-122	5.80	
Terphenyl-d14 (surr)		4.69	5.62	120	4.71	5.49	116	54-127	2.40	

Batch Information

Analytical Batch: XMS9197
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: DSH
Analytical Date/Time: 2/26/2016 8:05:00PM

Prep Batch: XXX34934
Prep Method: Sonication Extraction Soil SW8270
Prep Date/Time: 2/24/2016 8:37:05AM
Prep Initial Wt./Vol.: 22.95g
Prep Extract Vol: 5.00mL

Print Date: 03/04/2016 10:25:41AM

Ede, Stephen (Anchorage)

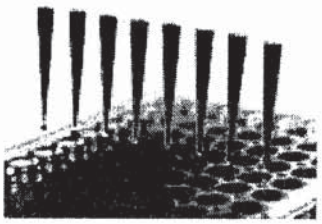
From: Shumway, Julie (Anchorage)
Sent: Monday, February 22, 2016 7:54 AM
To: Ede, Stephen (Anchorage)
Subject: FW: Lab # 1160765 Sample Analysis
Attachments: Scanned from a Xerox Multifunction Device.pdf

1160765

Kindest regards,

Julie Shumway
Environment, Health & Safety
Business Development

Mobile: +1 907 351 4693
Direct: +1 907 550 3215
Office: +1 907 562 2343
E-mail: julie.shumway@sgs.com



SGS ACQUIRES THE ASSETS OF ACCUTEST LABORATORIES
JANUARY 04, 2016
SGS is pleased to announce the acquisition of the assets of Accutest Laboratories. This combination will operate under the trade name SGS Accutest and create one of the leading environmental testing laboratory businesses in the USA. Read more.

SGS

From: Chris Fell [mailto:CFell@rmconsult.com]
Sent: Monday, February 22, 2016 7:52 AM
To: Shumway, Julie (Anchorage)
Cc: Ede, Stephen (Anchorage); Bob Pintner; Kristi McLean
Subject: Lab # 1160765 Sample Analysis

Julie,

Please hold analysis on the following samples (Annotated COC attached):

NIN16-DP
NIN16-EA
NIN16-SO
NIN16-NO

Please let me know if extraction was started.

Thanks,

Christopher D. Fell, C.P.G. *Senior Geologist*

R&M CONSULTANTS, INC. | 9101 Vanguard Drive | Anchorage, Alaska 99507
907.646.9655 direct | 907.229.1617 mobile

Facebook | LinkedIn | rmconsult.com

Innovating Today for Alaska's Tomorrow

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1160765

Locations Nationwide
ka Maryland
Jersey New York
ı Carolina Indiana
t Virgina Kentucky
www.us.sgs.com

Page 1 of 1

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: R&M Consultants

CONTACT: Chris Fell PHONE NO: 646.9655

PROJECT NAME: Homer/Mainlch Class V Well PROJECT/ PWSID/ PERMIT#:

REPORTS TO: Chris Fell E-MAIL: cfell@rmconsult.com

INVOICE TO: R&M Consultants QUOTE #: P.O. #: 2010.08

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	Section 3 # CONTAINERS	Type C = COMP G = GRAB MI = Multi Incre-mental Soils	Preservative: MeOH 5035 4°C	4°C	4°C	REMARKS/ LOC ID
							VOC 8260	SVOC 8270	Metals 6020 (As, Cr, Cd, Pb)	
1 A-B	HMR16-DP	2/19/16	0855	soil	2	G	X	X	X	
2 A-B	HMR16-SO		0855		2	G	X	X	X	
3 A-B	HMR16-EA		1012		2	G	X	X	X	
4 A-B	HMR16-WE		1042		2	G	X	X	X	
5 A-B	NIN16-DP		1549		2	G	X	X	X	
6 A-B	NIN16-EA		1549		2	G	X	X	X	
7 A-B	NIN16-SO		1621		2	G	X	X	X	
8 A-B	NIN16-NO		1654		2	G	X	X	X	
9 A-	VW8-73-29	2/3/16			1	TB	X			Trip Blank

Section 5

	Date	Time	Received By:
Relinquished By: (1)	2/19/16	1030	
Relinquished By: (2)			
Relinquished By: (3)			
Relinquished By: (4)	2/19/16	1030	Received For Laboratory By:

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements: level 2 pdf

Requested Turnaround Time and/or Special Instructions:
14 day (standard)

Temp Blank °C: 01* D12
or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms-and-conditions

F083-Kit_Request_and_COC_Templates-Blank
Revised 2013-03-24

1160765

SAMPLE RECEIPT FORM

Review Criteria:	Yes	N/A	No	Comments/Action Taken:
Were **custody seals** intact? Note # & location, if applicable. COC accompanied samples?	☐ ☑	☑ ☐	☐ ☐	***Exemption permitted if sampler hand carries/delivers.***
Temperature blank compliant* (i.e., 0-6°C after CF)? *If >6°C, were samples collected <8 hours ago?* *If <0°C, were all sample containers ice free?* Cooler ID: 1 @ 0.0 w/ Therm.ID: D12 Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ If samples are received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled."	☑ ☐ ☐	☐ ☑ ☑	☐ ☐ ☐	***Exemption permitted if chilled & collected <8 hrs ago.*** ***Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.***
Delivery method (specify all that apply): ☑Client (hand carried) ☐USPS ☐Lynden ☐AK Air ☐Alert Courier ☐UPS ☐FedEx ☐RAVN ☐C&D Delivery ☐Carlile ☐Pen Air ☐Warp Speed ☐Other: _____ → *For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?*	☐	☑	☐	
	Yes	**N/A**	**No**	
Were samples received within hold time? Do samples **match COC*** (i.e., sample IDs, dates/times collected)? Were analyses requested unambiguous?	☑ ☑ ☑	☐ ☐ ☐	☐ ☐ ☐	***Note: Refer to form F-083 "Sample Guide" for hold times.*** ***Note: If times differ <1hr, record details and login per COC.***
Were samples in **good condition** (no leaks/cracks/breakage)? Packing material used (specify all that apply): ☐Bubble Wrap ☐Separate plastic bags ☐Vermiculite ☐Other:	☑	☐	☐	
Were **proper containers** (type/mass/volume/preservative*) used? Were **Trip Blanks** (i.e., VOAs, LL-Hg) in cooler with samples? Were all VOA vials **free of headspace** (i.e., bubbles ≤6 mm)? Were all soil VOAs **field extracted** with MeOH+BFB?	☑ ☑ ☐ ☑	☐ ☐ ☑ ☐	☐ ☐ ☐ ☐	☐ ***Exemption permitted for metals (e.g., 200.8/6020A).***
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was **pH verified and compliant**? If pH was adjusted, were bottles flagged (i.e., stickers)?	☐ ☐	☑ ☑	☐ ☐	
For **special handling** (e.g., "MI" soils, foreign soils, lab filter for dissolved…, lab extract for volatiles, Ref Lab, limited volume), were bottles/paperwork flagged (e.g., sticker)?	☐	☑	☐	
For **RUSH/SHORT Hold Time**, were COC/Bottles flagged accordingly? Was Rush/Short HT email sent, if applicable?	☐	☑	☐	
For **SITE-SPECIFIC QC, e.g. BMS/BMSD/BDUP**, were containers / paperwork flagged accordingly?	☐	☑	☐	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	☐	☑	☐	SRF Completed by: D.C 02/19/2016 PM notified:
Was **PEER REVIEW** of ***sample numbering/labeling completed?***	☐	☑	☐	Peer Reviewed by:
Additional notes (if applicable):				

Note to Client: *Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.*

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1160765001-A	No Preservative Required	OK			
1160765001-B	Methanol field pres. 4 C	OK			
1160765002-A	No Preservative Required	OK			
1160765002-B	Methanol field pres. 4 C	OK			
1160765003-A	No Preservative Required	OK			
1160765003-B	Methanol field pres. 4 C	OK			
1160765004-A	No Preservative Required	OK			
1160765004-B	Methanol field pres. 4 C	OK			
1160765005-A	No Preservative Required	OK			
1160765005-B	Methanol field pres. 4 C	OK			
1160765006-A	No Preservative Required	OK			
1160765006-B	Methanol field pres. 4 C	OK			
1160765007-A	No Preservative Required	OK			
1160765007-B	Methanol field pres. 4 C	OK			
1160765008-A	No Preservative Required	OK			
1160765008-B	Methanol field pres. 4 C	OK			
1160765009-A	Methanol field pres. 4 C	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM- The container was received damaged.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.